Synapse® Installation Guide

© 2010–2011 Advanced American Telephones. All Rights Reserved. AT&T and the AT&T logo are trademarks of AT&T Intellectual Property licensed to Advanced American Telephones, San Antonio, TX 78219. Synapse® is a registered trademark of Advanced American Telephones. Issue 15.0 9/11

CONTENTS

Preface **6**

Using This Guide 6
Topic Navigation 7
Text Conventions 8
Deskset and Cordless Handset Menu Navigation 9
Additional Documentation 9

Installation **10**

System Overview 11
- Software Version Compatibility 13
- System Installation Overview 14

Recommended Installation Sequence 17
Planning Your System and Network Configuration 19
- About Modes of Operation 19
- IP Addresses and Connectivity 20
- Extension Assignments 21
- Overhead Paging Overview 22
- Door Phones Overview 27
- Connecting Analog Devices to the ATA 30

Site Preparation 32
- Network Requirements 32
- Placement Considerations 33
- Power Considerations 33
- Other Preparations 34

Assigning Telephone Lines and Extensions 35
- Providing Limited Telephone Service During AC Power Outages 35
- Analog Line Connection Order on PSTN Gateways 35
- ATA Fax Line Configuration 36

Gateway and ATA Placement 37
Rack Mounting 37
Wall Mounting 38
Grounding 39
Gateway Installation 41
Deskset Installation 45
SB67050 ATA Installation 52
Connecting Analog Telephones 53
Connecting a Fax Machine 54
Connecting an Overhead Paging System (OHP) 55
Connecting a Music on Hold Source 57
SB67040 Cordless Handset Installation 58
Charger Installation 58
Battery Installation 59
Battery Charging 60
TL7600 Cordless Headset Installation 61
Charger Installation 61
Battery Installation 62
Battery Charging 63

Getting Started 64

PSTN Gateway Features 65
T1 Gateway Features 67
Gateway Front Panel Interface 69
Gateway Configuration 71
Upgrade Gateway Software 72
ATA Features 74
ATA Front Panel Interface 76
ATA Configuration 77
Upgrade ATA Software 78
Resetting Devices 80

Deskset IP Settings 82
Set/Edit Static IP 84
IP Status 85
Upgrade Deskset Software 86

System Configuration 88

The Web User Interface (WebUI) 89
WebUI Overview 90
Log in as Administrator 91
Error Handling 93
System Settings 94
Setting Line Appearance Mode 95
Dial Plan Settings 96
Direct Inward Dial (T1 Gateway) 100
Trunk Naming 106
Trunk Reservation (Outgoing Calls) 107
PSTN Gateway Trunk Routing (Incoming Calls) 109
T1 Settings 110
T1 Diagnostics 114
ATA Settings 115
ATA FXS Ports 116
Fax Overview 118
Setting Up Overhead Paging 122
Single-Zone Overhead Paging 123
Multi-Zone Overhead Paging 125
Paging Zones 126
Configuring a Trunk Port (FXO) Door Phone 129
Line Calibration Configuration 135
Updating Devices 136
Product Registration 141

Troubleshooting **142**

Common Troubleshooting Procedures 143
- Resetting Devices 143
- Resolving General Functional Issues 145
- Resolving PSTN Gateway Audio Echoes 148
- Resolving General Audio Issues 150
- Reintroducing a Deskset Into the System 151
- Reintroducing a Gateway or ATA Into the System 154
- Power Failure Recovery Procedure 156

Initial Installation 158
Display Messages 159
- T1 Gateway Indicators 163
- PSTN Gateway Setup 165

WebUI 166
- Administrator WebUI 166
- User WebUI 173

PC/Deskset Interaction 174
Other Deskset Features 175
SB67050 Analog Terminal Adapter 179
- General Troubleshooting 179
- Music on Hold (MoH) 181
- Overhead Paging (OHP) 184
- Fax Configuration 195
- Analog Phone 199
- Group Mailbox 201

Appendixes **202**

Appendix A: Technical Specifications 202
Appendix B: Default Settings 205
Appendix C: Part Lists 209
- SB67010 PSTN Gateway Parts List 209

SB67060 T1 Gateway Parts List 210
SB67020 Deskset Parts List 211
SB67030/031 Deskset Parts List 212
SB67050 Analog Terminal Adapter (ATA) Parts List 213
SB67040 Cordless Handset Parts List 214
TL7600 Cordless Headset Parts List 215
Appendix D: Maintenance 216
Appendix E: Important Safety Instructions 217
Appendix F: Limited Warranty 219

Glossary 223

PREFACE

This Installation Guide provides instructions for installing and setting up your Synapse system with software version 1.9.5 or later. See *page 13* for instructions on checking the software version on the Gateway, the Deskset, and the ATA.

Before using this AT&T product, please read *"Appendix E: Important Safety Instructions" on page 217*. Please read this guide thoroughly for all the information necessary to install your new AT&T product.

NOTE For customer service or product information, contact the person who installed your system. If your installer is unavailable, visit our web site at **www.telephones.att.com/smb** or call **1 (888) 916-2007**. In Canada, dial **1 (888) 883-2474**.

Using This Guide

The following sections provide instructions for using this guide:

- *"Topic Navigation" on page 7*
- *"Text Conventions" on page 8*
- *"Deskset and Cordless Handset Menu Navigation" on page 9.*

NOTE Some illustrations in this document contain very small text that is not intended to be read. Sometimes the image is present just to help you find the correct screen; in others, full size text conveys the intended information.

Topic Navigation

This guide allows easy navigation between topics and the ability to return to your original topic. Figure 1 illustrates the navigation conventions within the guide.

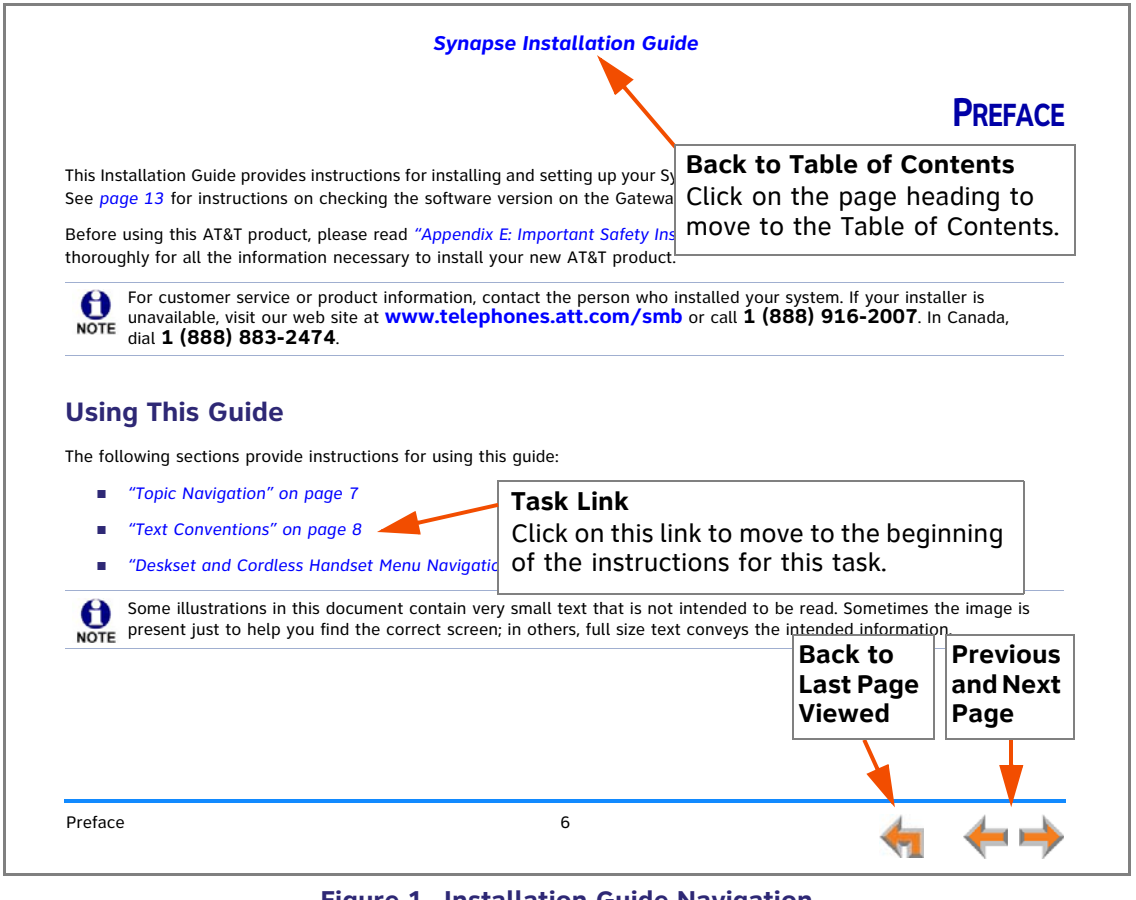

Synapse Installation Guide
PREFACE
Back to Table of Contents
Click on the page heading to move to the Table of Contents.
This Installation Guide provides instructions for installing and setting up your Sy
See page 13 for instructions on checking the software version on the Gatewa
Before using this AT&T product, please read "Appendix E: Important Safety Ins
thoroughly for all the information necessary to install your new AT&T product.
NOTE
For customer service or product information, contact the person who installed your system. If your installer is unavailable, visit our web site at www.telephones.att.com/smb or call 1 (888) 916-2007. In Canada, dial 1 (888) 883-2474.
Using This Guide
The following sections provide instructions for using this guide:
"Topic Navigation" on page 7
"Text Conventions" on page 8
"Deskset and Cordless Handset Menu Navigatio
Task Link
Click on this link to move to the beginning of the instructions for this task.
NOTE
Some illustrations in this document contain very small text that is not intended to be read. Sometimes the image is present just to help you find the correct screen; in others, full size text conveys the intended information.
Back to Last Page Viewed
Previous and Next Page
Preface
6

Figure 1. Installation Guide Navigation

Text Conventions

Table 1 lists text formats and their uses.

Table 1. Description of Text Conventions

Text Format	Description
Screen	Identifies text that appears on the screen in a title, menu, or prompt.
HARD KEY or **DIAL-PAD KEY**	Identifies a hard key, including the dial-pad keys.
Call	Identifies a soft key.
Figure 1, Table 1	Identifies a figure or table.
"Topic Navigation" on page 7	Identifies a hyperlink to another part of this document or, if it begins with "www", an Internet web site. You need Internet access to view web sites.
[**PSTN**], [**T1**], [**ATA**], [**Handset**], [**Headset**]	Identifies information predominately about devices and capabilities beyond the basic configuration of a Gateway and Desksets. See *"System Overview" on page 11*.
NOTE Notes give more information, usually in a procedure.	Example of a Note.
CAUTION *A caution means that loss of data or unintended circumstances may result.*	Example of a Caution.

Deskset and Cordless Handset Menu Navigation

To access items in the menus, you can either use the Navigation key to highlight the function and press **SELECT** or press a numeric key on the dial pad. The procedures in this guide use the numeric keypad entry as the preferred method for selecting a function.

Additional Documentation

Downloadable copies of all Synapse documents, including user's and administrator's guides, installation instructions and quick-start guides, are available at **www.telephones.att.com/synapseguides**.

CHAPTER

1

INSTALLATION

This section describes the physical installation of the Synapse devices. Each system must include at least one PSTN Gateway or one T1 Gateway. Each PSTN Gateway supports up to four analog telephone lines. Up to four PSTN Gateways can support up to 16 analog telephone lines. The T1 Gateway supports up to 23 T1 PRI voice channels.

- *"System Overview" on page 11*
- *"Planning Your System and Network Configuration" on page 19*
- *"Recommended Installation Sequence" on page 17*
- *"Planning Your System and Network Configuration" on page 19*
- *"Site Preparation" on page 32*
- *"Assigning Telephone Lines and Extensions" on page 35*
- *"Gateway and ATA Placement" on page 37*
- *"Gateway Installation" on page 41*
- *"Deskset Installation" on page 45*
- *"SB67050 ATA Installation" on page 52*
- *"SB67040 Cordless Handset Installation" on page 58*
- *"TL7600 Cordless Headset Installation" on page 61.*

NOTE You can view Synapse installation videos at **www.telephones.att.com/smb**. In the left navigation menu, click on **Product Support** and then **Video Gallery**.

System Overview

1. **AT&T SB67010 PSTN Gateway** — Each PSTN Gateway provides access to up to four analog outside telephone lines. The system can have up to four PSTN Gateways, supporting up to 16 telephone lines. Information that is only about the PSTN Gateway is designated by [**PSTN**] in this guide.

2. **AT&T SB67060 T1 Gateway** — The T1 Gateway supports the T1 PRI (Primary Rate Interface) that provides access to up to 23 voice channels to support up to 23 simultaneous calls. The system can have only one T1 Gateway. Information that is only about the T1 Gateway is designated by [**T1**] in this guide.

3. **AT&T SB67020 Deskset** — A Deskset with a standard screen and Programmable Feature Keys. The system can have up to 100 Desksets, and you can combine SB67020 and SB67030/031 Desksets. Information that is only about the SB67020 Deskset is designated by [**020**] in this guide.

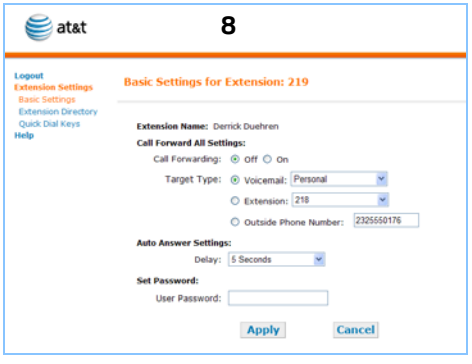
4. **AT&T SB67030/031 Deskset** — A Deskset with a large screen and a DECT 6.0 radio to host the optional Cordless Handset and Headset accessories. The system can have up to 100 Desksets, and you can combine SB67030/031 and SB67020 Desksets. Information that is only about the SB67030/031 Deskset is designated by [**030/031**] in this guide.

5. **AT&T SB67040 Cordless Accessory Handset** (Optional, requires SB67030/031 Deskset) — The Cordless Handset duplicates many of the Deskset features and provides a high degree of mobility. Information that is only about the Cordless Handset is designated by [**Handset**] in this guide.

6. **AT&T TL7600 Cordless Accessory Headset** (Optional, requires SB67030/031 Deskset) — The Headset lets you work while you talk. Information that is only about the Cordless Headset is designated by [**Headset**] in this guide.

7. **AT&T SB67050 Analog Terminal Adapter** (ATA - Optional) — The ATA allows the integration of non-Synapse devices, such as analog telephones, a fax machine, overhead paging equipment, and a music-on-hold source into the Synapse system. It also provides Group Mailboxes to allow different people to access the same Mailbox. The system can have only one ATA. Information that is only about the ATA is designated by [**ATA**] in this guide.

8. **Web User Interface (WebUI)** — The WebUI provides the ability to customize your system for your business from a PC that is on the same Local Area Network. The WebUI resides on the Gateways, ATA, and Desksets, and is updated with device software updates. See *"Updating Devices" on page 136*.



NOTE

You can register only one AT&T SB67040 Cordless Handset and only one AT&T TL7600 Cordless Headset to a SB67030/031 Deskset. Up to five SB67030/031 Desksets can have cordless accessories, although this number can increase depending on your office environment. Factors such as proximity of Desksets, number of simultaneous calls, and structural obstacles affect how many Desksets can have cordless accessories. When a Deskset has cordless accessories, they are all part of the same extension, and only one extension device can be used at a time.

To integrate the Headset into the system, see "User Settings" in the SB67030/031 Deskset and Accessories User's Guide at **www.telephones.att.com/synapseguides**, rather than the manual that is packaged with the Headset.

Software Version Compatibility

Systems with software versions 1.9.5 and later support the features described in this guide. **All Gateways, ATAs and Desksets must have compatible software versions installed.**

- To determine the software version of Gateways and the ATA from the device front panel, from idle, press **SELECT**, **SELECT**, and then **DOWN**. The software version appears, as shown in Figure 3.
- To determine the SB67020 Deskset software version, press **MENU**, then **4**, and then the ▽ Navigation key to display the software version as shown in Figure 4.
- To determine the SB67030/031 Deskset software version, press **MENU**, then **4**. See the P Firmware version as shown in Figure 5.
- To determine the software version of all installed devices, log in as administrator. See *"Log in as Administrator" on page 91*. Then click **Detailed Site Information** to see the software versions and other information, as shown in Figure 2. There may be a delay as the system gathers this information.

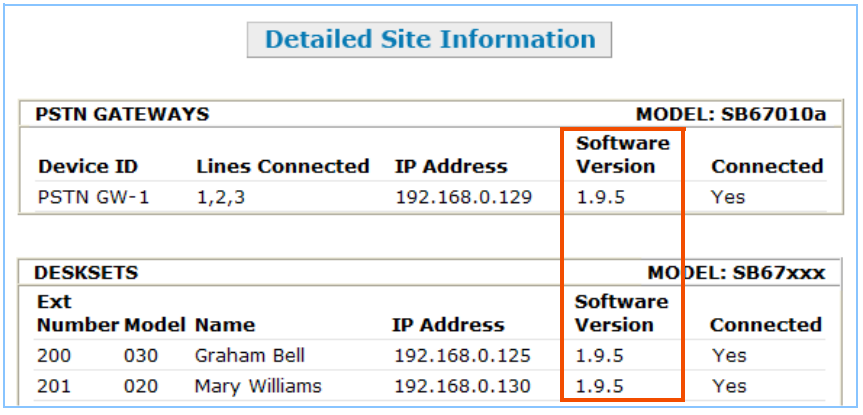


Figure 2. Detailed Site Information

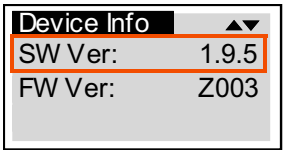


Figure 3. Gateway Software Version

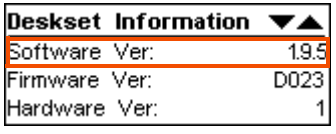


Figure 4. SB67020 Deskset Software Version

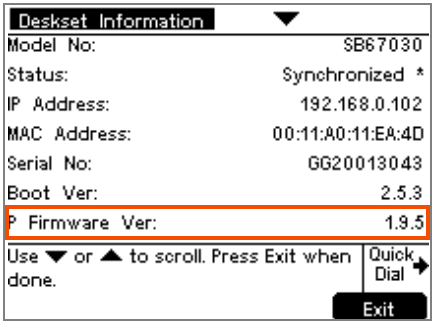


Figure 5. SB67030/031 Deskset Software Version

System Installation Overview

Figure 6 illustrates how the Synapse system differs from conventional telephone systems in that calls are not coordinated by a central controller. Instead, the system uses a distributed control system over a new or existing LAN.

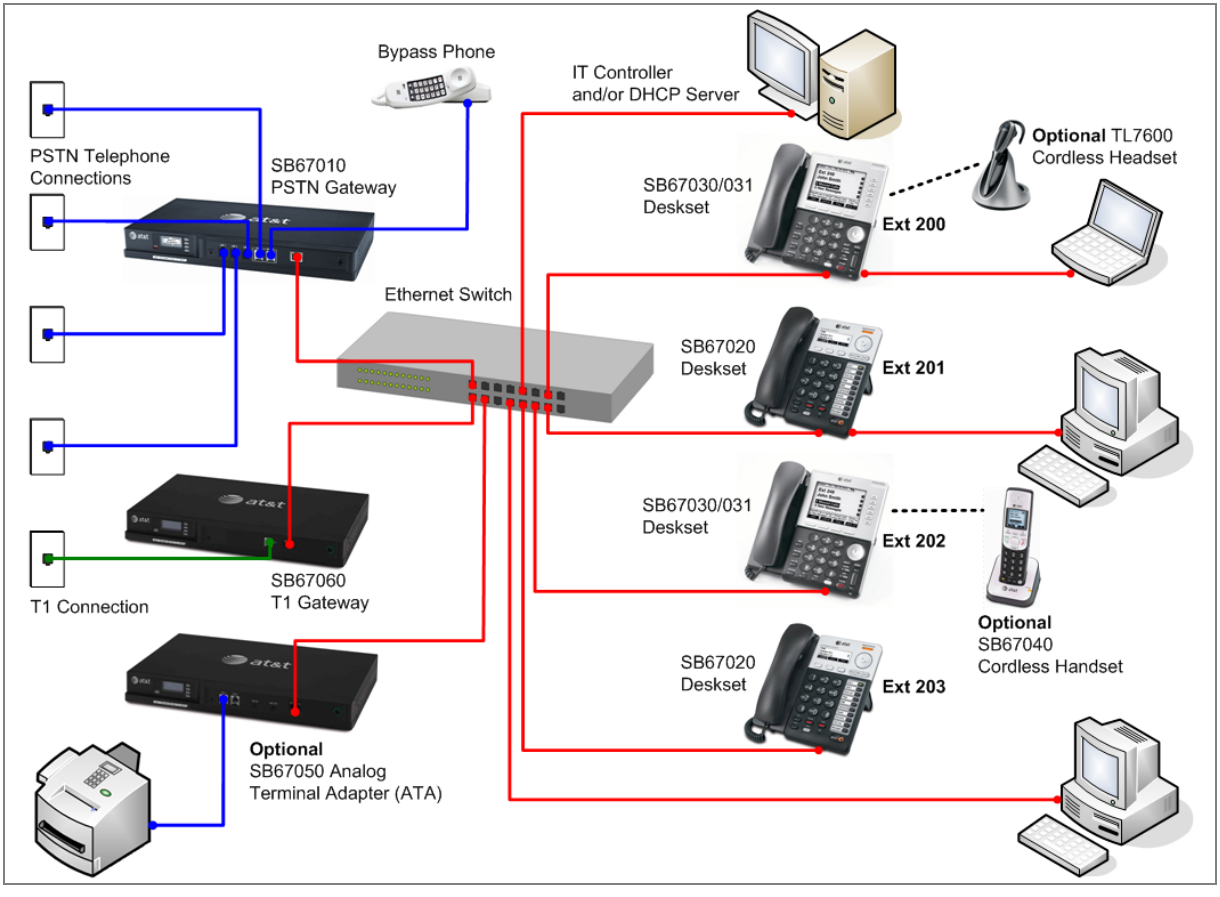


Figure 6. Sample System Network

If you install one SB67010 PSTN Gateway or SB67060 T1 Gateway and then one Deskset, the feedback described in this guide matches what you see on your system devices.

A system must have at least one PSTN Gateway or one T1 Gateway. There can be up to four PSTN Gateways, and a system can include both a T1 Gateway and PSTN Gateways. Figure 7 illustrates the minimum components needed to make the system work (**blue** line = telephone; **red** lines = Ethernet).

NOTE The system uses a Local Area Network (LAN) for system communication. It uses Public Switched Telephone Network (PSTN) connections for outside calls.

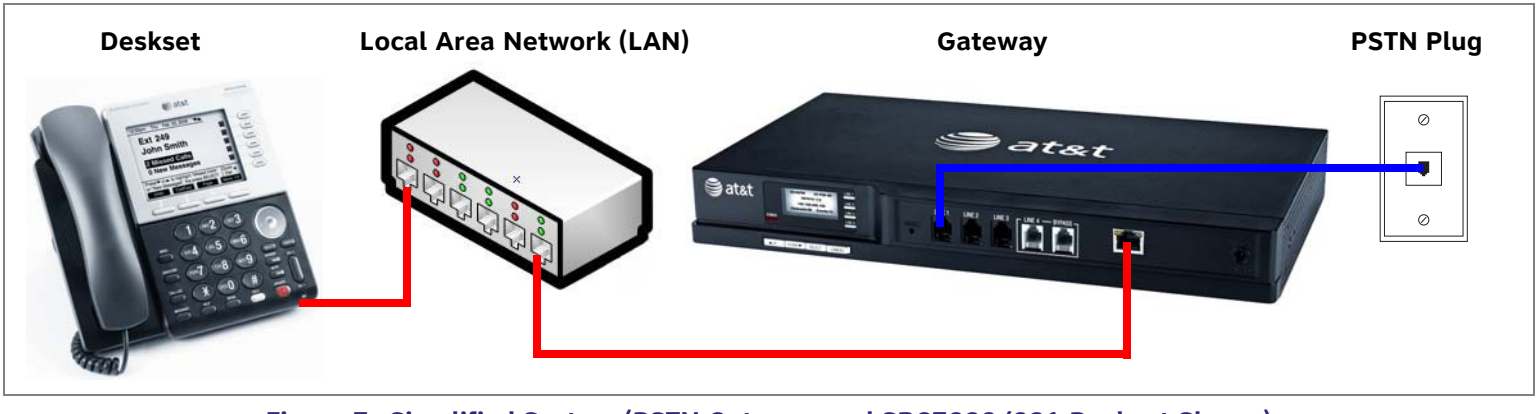


Figure 7. Simplified System (PSTN Gateway and SB67030/031 Deskset Shown)

System Installation Overview with Optional Analog Terminal Adapter

If you have analog devices that you want to attach to the system, you will need an AT&T SB67050 Analog Terminal Adapter (ATA). The Synapse system supports one ATA per system. The ATA allows you to attach hardware such as conference phones, overhead paging equipment, a fax machine, or a source for Music On Hold (MoH) to Synapse. Figure 8 illustrates a more complex installation (**blue** lines = telephone; **red** lines = Ethernet; **orange** lines = audio), but there are different options for attaching some of the equipment to the ATA.

Install the ATA after you have installed at least one Gateway and the Desksets.

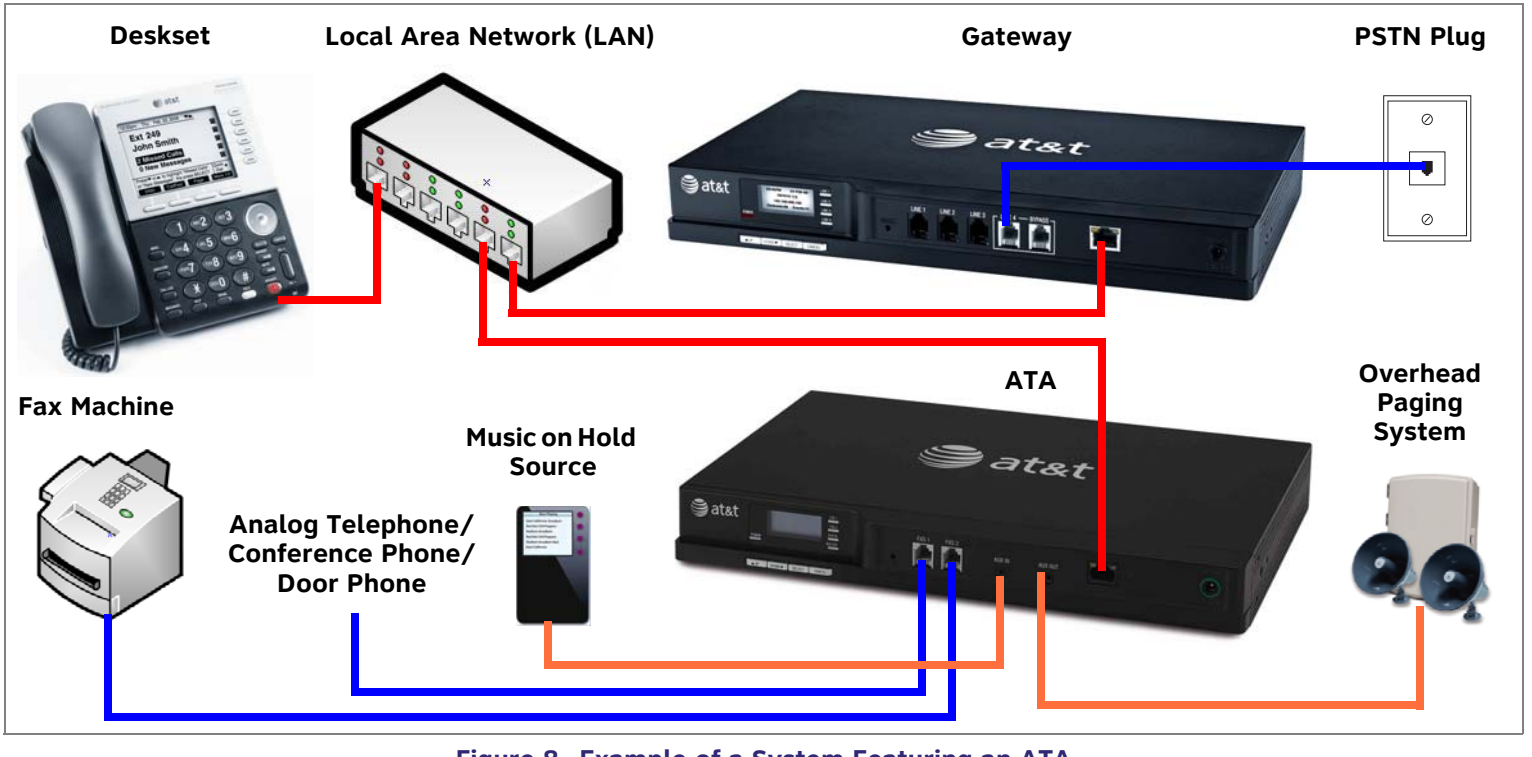


Figure 8. Example of a System Featuring an ATA

Recommended Installation Sequence

1. Prepare your site for installation. See *"Site Preparation" on page 32*.
2. Install the PSTN and/or T1 Gateways. See *"Gateway Installation" on page 41*.
3. If you have only one Gateway, install the first Deskset. See *"Deskset Installation" on page 45*. This Deskset is assigned extension number 200 with no Direct Inward Dialing.
4. If necessary, change the mode of operation from Call Appearance mode to Line Appearance mode. See *"About Modes of Operation" on page 19*.

NOTE You cannot enable Line Appearance mode if a T1 Gateway is installed in your system. Line Appearance mode is not compatible with the T1 Gateway and T1 Gateway features such as DID.

---

5. Configure the Dial Plan Settings and **[T1]** Direct Inward Dialing (DID). Unless you do this, the other Desksets will be assigned sequential three-digit extension numbers starting with 201 and without DID numbers.

   To use DID, see *"Dial Plan Settings" on page 96* and *"Direct Inward Dial (T1 Gateway)" on page 100*.

   Use the WebUI to change the Dial Plan Settings if you want the first extension digit to be something other than 2, possibly to correspond to the DID numbers, or if you want the parked-call extension numbers to start with a digit other than 1.

   After changing the Number of Digits and Default Phone Extension Prefix, manually change the extension number of the first Deskset you installed, and manually set its DID number.

   Changing the number of extension digits after installing some Desksets may result in undesired extension number re-assignment, where the last three digits of previous extension numbers may not be preserved.
6. Install the other Desksets. See *"Deskset Installation" on page 45*.
7. **Optional**: Install the AT&T SB67050 Analog Terminal Adapter (ATA). See *"SB67050 ATA Installation" on page 52*. If you install the ATA with phones or a fax machine connected to an FXS port before installing a Deskset, that device will default to being the operator. Install the ATA after installing at least one Deskset so that a Deskset is the default operator.

8. Connect any analog device such as a fax machine, paging system, or door phone to the ATA. For more information, see:
   - *"Connecting Analog Telephones" on page 53*
   - *"Connecting a Fax Machine" on page 54*
   - *"Connecting an Overhead Paging System (OHP)" on page 55*
   - *"Station Port (FXS) Door Phone Support" on page 27*.
9. Configure the system using the WebUI. See *"System Configuration" on page 88*.
10. Complete post-installation tasks.
    - If you have set the system to use Call Appearance mode, ask all users to record their user names on their Desksets.

      See "Name Recording for the Auto Attendant Directory" in the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.
    - If you have set the system to use Call Appearance mode, distribute and register any Cordless Handsets or Headsets. Synapse Cordless Handsets are not compatible with Line Appearance mode. See *"SB67040 Cordless Handset Installation" on page 58* and *"TL7600 Cordless Headset Installation" on page 61*.
    - Check for software upgrades and register your Synapse system products. See *"Product Registration" on page 141*.

Planning Your System and Network Configuration

This section describes several important configuration options that you should be aware of before you install the Synapse system. These options include Operation Mode (Call Appearance versus Line Appearance), IP addresses and connectivity, extension number assignments, analog bypass lines and analog telephones in the Synapse system.

About Modes of Operation

The system administrator can configure the Synapse system to operate in one of two different modes: Call Appearance mode and Line Appearance mode. The operation mode affects how Deskset users make, answer, and manage calls. Each mode provides a unique set of configurable features.

Before beginning the installation, you and the system administrator should decide which mode will work best for the site.

Call Appearance Mode

In Call Appearance mode, each Deskset has virtual “lines” (5 on SB67030/031 Desksets, and up to 10 on SB67020 Desksets) for calls to and from external numbers (232-555-0176, for example) or other extensions (Extension 220, for example). These virtual lines are called Call Appearances.

Systems using Call Appearance mode can have any combination of PSTN Gateways, T1 Gateway, and an optional ATA. In Call Appearance mode, SB67030/031 Desksets can have SB67040 Cordless Handsets and TL7600 Cordless Headsets.

Line Appearance Mode

In Line Appearance mode, each line that Deskset users can access corresponds to an actual physical line connected to the PSTN Gateway (the Synapse system can have up to four PSTN Gateways providing up to 16 lines). Incoming lines are mapped to Programmable Feature Keys on Desksets. You can assign different lines to different Desksets or groups of Desksets. You can configure SB67020 Desksets to access up to 9 lines and SB67030/031 Desksets to access up to 4 lines.

Other Desksets in the system can share these lines and display the line status. Incoming calls on a line ring at all Desksets that share that line. Users at Desksets that share lines can see when lines are ringing, busy, or on hold.

Systems using Line Appearance mode must use PSTN Gateways only. An optional ATA is also compatible with Line Appearance mode. For more information, see *"ATA Fax Line Configuration" on page 36*. A system using Line Appearance mode cannot support the T1 Gateway, Ring Groups, Call Queue and some Deskset-specific features.

For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

In Line Appearance mode, SB67030/031 Desksets cannot use SB67040 Cordless Handsets, although TL7600 Cordless Headsets are compatible with Line Appearance mode.

IP Addresses and Connectivity

An IP address is an individual numeric identification assigned to devices on a computer network. At least one Synapse device needs a network-assigned IP address on the subnet shared with any computers that will allow access to the WebUI. Valid IP addresses on the same subnet allow devices on the network to identify each other and enable communication.

This IP address may be assigned from a Dynamic Host Configuration Protocol (DHCP) server, or set statically to the same subnet, and will be separate from the self-assigned 169.254.xxx.xxx link-local address that the Synapse devices use to communicate with each other. When setting up the IP address on a Synapse device, this network IP address used for WebUI connectivity is the only address you can change.

The network IP addresses can be assigned in two ways:

1. The Synapse device can request a network server to automatically assign an IP address. This IP address is a dynamic assignment; the address is on lease from the server. The lease is renewed as long as the device remains connected and there is no change to the network. However, if the device is disconnected, or if there is a network or AC power interruption, the lease may not be renewed (that is, the IP address expires) and a new IP address may be assigned.

   Most LANs use servers to automatically assign IP addresses. Synapse defaults to assuming that this automatic assignment will occur.

CAUTION

Some servers have default settings that limit the number of network IP addresses assigned to devices on the network. You should log in to your server to confirm that the IP range is sufficient to accommodate at least one of the Synapse devices that you are adding as at least one Synapse device needs an assigned IP address to enable WebUI configuration activities. Consult the IT department if you need help checking the server.

2. The Synapse Administrator can manually assign a static system IP address. This IP address does not change, even when there are network or AC power interruptions. Some installations will require manual static IP assignment.

A switched-network topology is recommended. This topology refers to the network virtual shape or structure and does not necessarily reflect the physical layout. Switched networks involve connecting the network components to switches rather than hubs; this improves network communication.

Extension Assignments

The system assigns the first Deskset to join the network as extension 200. At this point you can use the WebUI to set a different first digit for extension numbers for Desksets that will be connected to the network. If desired, you should also change the number of digits from three to four at this point. See *"Dial Plan Settings" on page 96*.

The system automatically assigns each additional Deskset an extension number in ascending order as it is connected to the LAN.

Once the Desksets are connected to the same network, they find each other through Peer-to-Peer (P2P) discovery protocols and automatically self-configure. Additional telephony and network configuration is administered through the WebUI.

Even if you unplug a unit, its extension number is reserved. If you want to remove an extension from the network, you must delete the extension number using the WebUI **Device Management** menu. Deletion ensures that the Deskset does not tie up an extension. You can use the WebUI to change or delete extension numbers.

For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

Overhead Paging Overview

You can set up either single or multi-zone external overhead paging (OHP), as shown in Table 2, but only one OHP system can be connected to the ATA. You can also use a loud ringer device, either on its own or with your existing OHP paging system, if supported. For more information, see *"Loud Ringers" on page 31*.

Synapse supports most OHP systems that can connect to PBX Analog Station (FXS) ports as well as those that support direct Audio Input detection, also known as VOX Detect. If you already have an OHP, you need to figure out the necessary configuration before installation and setup. This introduction may help you figure out your system. If not, refer to your OHP system's product documentation for installation and configuration instructions or contact your OHP equipment provider.

Table 2. [ATA] Single- vs. Multi-Zone Overhead Paging Systems

Single-Zone Paging	Multi-Zone Paging
Broadcasts to all overhead speakers at once.	Broadcasts to speakers grouped into separate zones.
Can be included in a Synapse Paging Zone. See *"Paging Zones" on page 126*.	Cannot be included in a Synapse Paging Zone because the multi-zone OHP cannot be paged together with Desksets.
Does not appear in the Deskset Paging Zones menu unless you add Single-Zone paging to a paging zone you create.	Automatically appears in the Deskset Paging Zones menu as **Overhead Paging**.
Requires no additional user input to initiate a page.	Requires using the Deskset dial pad to enter digits to address the OHP paging zone.
For a connection through a FXS port, requires you to set a delay determined by trial and error. This delay, which starts after the user presses Start, gives the paging equipment time to prepare to broadcast the message. It is required for every page, even if the OHP is not the chosen paging zone. See *"Single-Zone Overhead Paging Delay" on page 124*.	There is no programmed delay as the paging equipment provides feedback to the user when to start speaking.
Can be connected to an FXS port or the AUX Out jack.	Must be connected to the FXS port.

If your OHP is single-zone, you will have to decide whether it requires an FXS connection or an AUX OUT connection. You can only connect a multi-zone OHP to an ATA FXS port, i.e. a multi-zone OHP system cannot be connected to the AUX OUT port.

Equipment that can interface with the AUX OUT jack can be “dumb” in its audio output. It doesn't require any exchange of signals to be ready to broadcast.

Equipment that uses an FXS port must be able to go on and off hook, because the FXS ports use telephone signals to exchange information. The OHP generally includes some sort of controller or telephone interface, which often requires setting up, for example, “PABX loop start trunk port access”, or “RJ-11 for Tip and Ring connections”.

NOTE Even though the OHP has no RJ-11 jack, it may still have a Tip/Ring interface, requiring hard wiring. Whenever possible, try both the AUX OUT jack and an FXS port to find the best configuration for your needs.

To install an OHP system, see *“Connecting an Overhead Paging System (OHP)” on page 55*. There are three possible OHP configurations.

Single-Zone Paging

Single-zone paging means that all speakers connected to the OHP system are activated together (that is, they are in the same zone).

Single-Zone OHP equipment connected to the AUX OUT jack:

Use this configuration to connect single-zone paging equipment that uses a 3.5 mm audio jack as input. For example, use this configuration if the OHP device is just an amplified speaker. See *Figure 42 on page 56* for connection details. Verify that the OHP input levels are compatible with ATA level. See *“Appendix A: Technical Specifications” on page 202*. Only single-zone paging is supported in this configuration.

Figure 9. Single-Zone Overhead Paging on AUX OUT Jack

Single-Zone OHP equipment connected to one of the FXS ports:

Use this configuration to connect paging equipment that interfaces through a telephone line. Typically, any OHP that connects to an FXS port has some intelligence to go off and on hook or otherwise send a signal back to the pager. These are generally controllers or telephone interfaces with controls and settings.

In this configuration, you can specify a paging delay to compensate for the fixed delay introduced by the OHP system. This delay ensures that the paging tone is played simultaneously on both Desksets and on the OHP system. See *"Single-Zone Overhead Paging Delay" on page 124*.

Figure 10. Single-Zone Overhead Paging on FXS Port

Multi-Zone Paging

Broadcasts to speakers grouped into separate zones. Since the multi-zone OHP systems require zone selection, they cannot be combined into one zone together with Synapse Desksets.

Multi-Zone OHP equipment connected to one of the FXS ports:

When paging is configured as a multi-zone OHP, a dedicated **Overhead Paging** zone automatically appears as the last entry in the Deskset paging menu.

NOTE Overhead paging cannot be added to Synapse-specific paging zones (see *"Multi-Zone Overhead Paging" on page 125*) because the multi-zone OHP cannot be paged together with Desksets.

Figure 11. Multiple-Zone Overhead Paging on FXS Port

NOTE The OHP system may have settings that need to be adjusted to work with Synapse. Refer to your OHP system's product documentation for installation and configuration instructions.

Desksets and single-zone OHPs can be included in the same zone. In the case of a single-zone OHP connected to the FXS port, this Paging System and the Desksets generate different paging tones. Note that users hear both tones at the same time if the paging delay is set properly in the WebUI settings.

Verified Overhead Paging Devices

Table 3 lists OHP systems that have been demonstrated to work with the Synapse System as of the publication of this document. More OHP systems may also have qualified for this list. For more information, call **1 (888) 916-2007**. In Canada, dial **1 (888) 883-2474**.

Table 3. [ATA] Verified Overhead Paging Devices

Single Zone	Multi Zone
Aux Out Jack • Bogen TPU35B • Valcom 1030c FXS Port • Bogen TAMB • Bogen TPU15A • Bogen TPU35B (alternate to TPU15A) • Viking CPA-7B • Valcom V-9940 (expandable for multi-zone) • Valcom V-9941A (with talkback)	FXS Port • Bogen PCM 2000 • Bogen PCM TAMB • Bogen TPU15A or TPU35B • Bogen ZPM3

Door Phones Overview

Door phones and their associated door-entry mechanisms have become a common accessory in business phone systems. Door phone systems provide an easy method for Deskset users to attend to someone who is present at a door elsewhere. Synapse supports two types of door phones: Station Port (FXS) and Trunk Port (FXO). The system lets you select which Desksets will be notified by the door phone.

A Deskset user can send DTMF digits from the Deskset to the door phone to activate associated door-latch and relay mechanisms. How the door phone operates using a Deskset and the method to control a door latch varies with the door phone model.

Station Port (FXS) Door Phone Support

This type of door phone emulates a regular analog phone and can be connected to either FXS1 or FXS2 of a Synapse SB67050 ATA as shown in Figure 12. For single-button door phones a feature called Private Line Automatic Ringdown (PLAR) is supported. With PLAR configured in Synapse, as soon as the phone goes off-hook it will cause the configured extension(s) to ring with a pre-set Caller ID. Any Synapse extension can call the associated extension of the ATA port connected to the Doorphone.

In Call Appearance mode, you can configure PLAR to ring either a single extension or group of extensions (a Ring Group) when the door phone goes off hook. In Line Appearance mode, you can configure PLAR to ring a single extension. For more information, see *"ATA FXS Ports" on page 116*.

Figure 12. Station Port (FXS) Door Phone Connection

Trunk Port (FXO) Door Phone Support

A Trunk Port (FXO) door phone can be connected to any one of the four Line (FXO) ports on a Synapse SB67010 PSTN Gateway as shown in Figure 13. The FXO door phone can be configured to call either a single extension or a group of extensions (a Ring Group). You can use the WebUI to configure an FXO door phone. For more information, see *"Configuring a Trunk Port (FXO) Door Phone" on page 129*.

In Call Appearance mode, Synapse requires a dedicated door phone line to be Trunk Reserved to a spare Deskset in order for other Desksets not to seize that line for outbound calls. If there are no extra Desksets available for Trunk Reservation, the door phone should be connected to the last, or closest to last, line of the last Gateway to limit the chance of the door phone line being seized.

In Line Appearance mode, the Deskset user must be aware not to use the assigned line key for regular outbound telephone calls. Desksets automatically select a line when going off-hook, so the Deskset will seize an assigned door phone line if all other lines are busy.

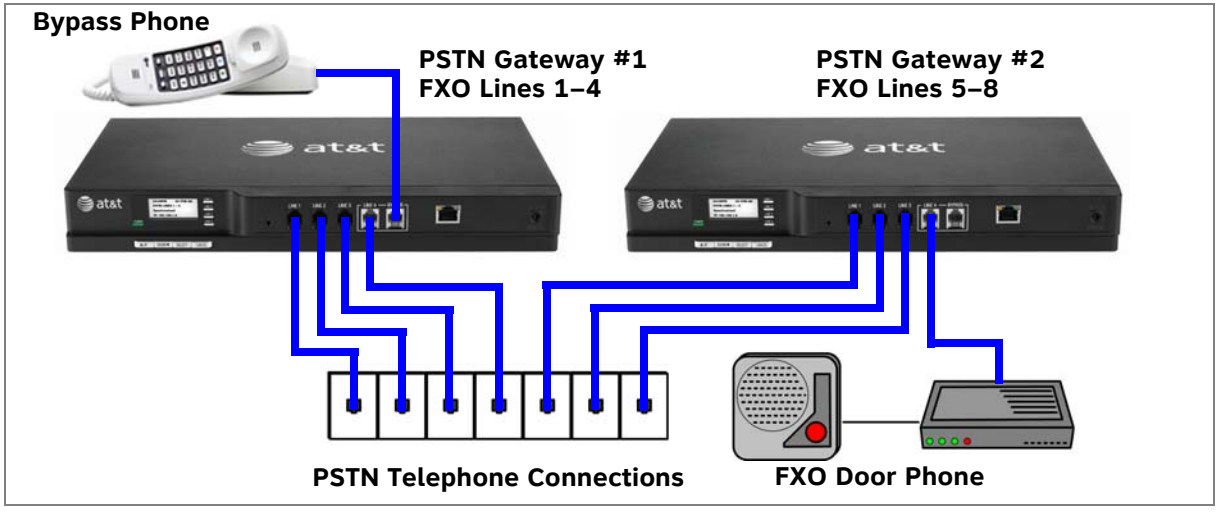


Figure 13. Trunk Port (FXO) Door Phone Connection

Tested Door Phone Models

Table 4 lists door phones that have been demonstrated to work with the Synapse System as of the publication of this document. More door phones may also have qualified for this list. For more information, call **1 (888) 916-2007**. In Canada, dial **1 (888) 883-2474**.

Table 4. Verified Door Phones

Trunk Port (FXO) Door Phones	Station Port (FXS) Door Phones
■ ALGO 3226 Trunk Port Door Phone (with 3201 Digital Door Station) ■ Valcom V-2900 Trunk Port Door Phone ■ Valcom V-2901 Trunk Port Door Phone	■ ALGO 3008 Station Port Door Phone (with 3106 Door Control Module) ■ Viking E-30 (with SRC-1 Door Control Module)

Connecting Analog Devices to the ATA

The ATA allows you to attach the following analog devices to the ports and jacks identified in *Figure 37 on page 52*. Most options require the system administrator to configure the feature in the WebUI. See *"The Web User Interface (WebUI)" on page 89* for information on configuring and using third-party devices. If you are planning to install more than one type of analog equipment, make sure there are suitable ATA ports available and configured.

- Analog telephones, including conference phones

  If not used for a fax machine or for Overhead Paging, the two FXS station ports on the ATA allow for connecting standard POTS (Plain Old Telephone Service) analog telephones and conference phones. When an ATA is added to the Synapse system, the FXS ports are automatically assigned extension numbers that can be changed by the system administrator using the WebUI. Users can make and receive calls on those analog telephones, but system features such as Hold, Call Forward, and Transfer are not supported. You can use the WebUI to assign features such as Ring Group, Auto Attendant menus, and Call Forward–No Answer targets to an analog telephone.

  An analog telephone connected to an FXS port can be used for Private Line Automatic Ringdown (PLAR). When you enable the PLAR feature through the WebUI, an analog telephone or device connected to an ATA FXS port will ring a destination when it goes off hook. To configure a PLAR destination, see *"ATA Settings" on page 115*.

- A single fax machine to share your general telephone lines instead of using a dedicated fax line

  One of the two FXS station ports can be configured to support a fax machine. The system administrator must configure the Fax mode in the WebUI.

- Overhead Paging Equipment (OHP)

  See *"Overhead Paging Overview" on page 22*. The ATA provides three options to connect OHP. The system administrator must configure the OHP in the WebUI.

  - Single-zone paging with OHP equipment connected to the ATA Aux Out jack
  - Single-zone paging with OHP equipment connected to one of the FXS station ports
  - Multi-zone paging with OHP equipment connected to one of the FXS station ports.

- Loud Ringers

  Loud Ringer devices must be connected to an FXS port assigned as Voice (default setting). Loud Ringers can be used for alerting users of an incoming call via a loud speaker and are treated within Synapse as a regular analog phone instead of OHP equipment. This type of overhead alerting can only be done by including the voice FXS port in a Ring Group.

- A source for Music On Hold (MoH)

  You can use the ATA to route MoH audio input to outside held, parked, or queued calls. When external callers are placed on hold, parked, or enter a call queue, they hear the audio source provided by the MoH input. The system administrator must configure the MoH in the WebUI. For more information, see *"Connecting a Music on Hold Source" on page 57*.

  For MoH WebUI configuration, see "Hold Settings and Music on Hold (Requires ATA)" in the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

- Door phone

  See *"Station Port (FXS) Door Phone Support" on page 27*.

Site Preparation

This section describes how to prepare your site for a successful Synapse system installation.

Network Requirements

For more information on the network configuration, see *"Planning Your System and Network Configuration" on page 19*.

- A switched network topology is recommended for your LAN (using standard 10/100 Ethernet switches that carry traffic at a nominal rate of 100 Mbit/s).
- The office LAN infrastructure should use Cat.-5 (or better) cable.
- The LAN connections to Synapse devices should all be wired. However, wireless connections to other devices (such as laptops) in your office network that are not part of the Synapse system will not impede performance.
- All devices in the Synapse system must reside on a single subnet.
- A DHCP server is recommended and must be on the same subnet as the Synapse system so that IP addresses can be auto-assigned. If no DHCP server is present, you can assign static IPs if desired. DHCP or static IPs are only required if the system is to be managed from a routable network and/or automatic time updates from an NTP server are desired. Synapse devices will self-assign link-local IP addresses for all voice communication in addition to any DHCP or static IPs that are assigned for management purposes.
- Unless you want to manually set the Synapse clock and upgrade Synapse software, an Internet connection to the LAN is required.
- A DNS server is recommended to resolve the path to the Internet and to the AT&T server for software upgrades.
- If a routing path to the Internet is not available, the system administrator can download the upgrade files and use the WebUI to upgrade the software manually.
- For users whose computers require a GigE Ethernet frame rate (a gigabit per second), use separate Ethernet connections for the Deskset and the computer. The Ethernet connection through a Deskset is limited to 100 Mbits/s.

Placement Considerations

Avoid placing any Synapse component too close to the following:

- Communication devices, such as television sets, DVD players, or other cordless telephones
- Excessive heat sources
- Noise sources, such as a window with traffic outside, motors, microwave ovens, refrigerators, or fluorescent lighting
- Excessive dust sources, such as a workshop or garage
- Excessive moisture
- Extremely low temperature
- Mechanical vibration or shock, such as on top of the washing machine or workbench.

ATA Placement Considerations

You can install the optional ATA near the Gateway, or near one of the third-party devices that are being used with it. For example, it might be easier to connect the ATA to the fax machine in the room with the fax machine instead of running a telephone line connection from the fax to an ATA located in a telephone equipment cabinet.

Power Considerations

Ensure that there is an electrical outlet not controlled by a wall switch within 6 feet (1.83 m) of each device location.

SB67020 and SB67031 Desksets are also compatible with Power over Ethernet (PoE). To use PoE, your network needs a switch that provides PoE. Using PoE simplifies your installation by eliminating the need to route separate power cords. It also allows you to protect your system from power outages by connecting an Uninterruptible Power Supply (UPS) to your PoE switch, Gateways, and ATA. For power requirement specifications, see page 203.

Other Preparations

Before installing the Gateway and Desksets, the following preparations may need to be taken:

- All PSTN lines must be gathered into one access point situated no more than 9 feet (2.74 m) from the Gateway location. If rewiring is required, contact your telephone service provider and request the help of a qualified technician.
- You may need one or more network switches set up to ensure there are sufficient ports available for other devices in the network (such as a DSL modem).
- If you plan to use the emergency bypass feature on the PSTN Gateway, you will need an analog phone.
- An Ethernet Port must be available within 9 feet (2.74 m) from each Deskset location. Each Deskset is capable of sharing an Ethernet port with a PC. If one Ethernet port already exists at a workstation, another port is not necessary unless you need a GigE Ethernet frame rate. Use a separate Ethernet connection for the Deskset and the computer.

Assigning Telephone Lines and Extensions

This section discusses various telephone line configuration issues to consider.

Providing Limited Telephone Service During AC Power Outages

PSTN Gateway

The fourth line on each PSTN Gateway is a Bypass port that works during AC power failures. If you have a PSTN line plugged into **LINE 4**, connect a line-powered analog telephone to the RJ-11 jack labeled **BYPASS** for telephone service during power failures. When power returns, a relay disconnects this emergency bypass line so that the bypass line cannot be used to eavesdrop on normal calls.

If your telephone lines are part of a hunt group (a telephone company feature that allows calls to a busy phone number to roll over to the next available telephone line), connect the line with your main (pilot) telephone number to PSTN Gateway **LINE 4**.

If your system features both PSTN Gateways and a T1 Gateway, outbound calls are placed first through the T1 channels.

T1 Gateway

The T1 Gateway provides no analog bypass port. To provide telephone communication during power outages, either subscribe to at least one analog phone line and install a PSTN Gateway or use uninterruptible power supplies to provide power to your computer network, the Synapse T1 Gateway, and one or more system Desksets.

Analog Line Connection Order on PSTN Gateways

For outgoing calls, the system first seizes the lowest idle PSTN port numbers (as labeled on the PSTN Gateway). PSTN phone lines should be connected to your system with your busiest incoming line placed in the highest port number on the highest numbered PSTN Gateway, so that incoming calls are less likely to receive busy signals. For instance, if your customer service team receives many calls, you would want to plug their phone lines into higher-numbered PSTN ports.

ATA Fax Line Configuration

To support fax on the Synapse system, you should consider where the fax is, and which telephone line will be used for incoming faxes. Fax line configuration for the Synapse system differs depending on whether you are using a PSTN Gateway or a T1 Gateway.

PSTN Gateway

The PSTN fax line can be connected to any FXO port (**LINE 1–4)** on the PSTN Gateway. However, trunks for outgoing calls are seized in ascending order (**LINE 1** then **LINE 2**, and so on). To avoid using the fax line for outgoing voice calls, make the fax line the highest possible numbered line on the highest numbered Gateway. Use the **Fax Configuration** page in the WebUI to select a telephone line on the PSTN Gateway as the fax line. See *"Fax Configuration" on page 119*.

If your office has heavy fax volume, the fax line should be a separate dedicated line, and not part of a hunt group.

If your office has low fax volume, your telephone service provider may be able to include your fax line in the hunt group. This way, you can save on the expense of a separate fax line. In this scenario, you can maximize your system for voice usage while maintaining the capacity to send or receive the occasional fax.

You should consider the following issues when fax and voice calls share a PSTN Gateway line:

- Incoming calls that get routed through the PSTN Gateway fax line are automatically checked by the system for a fax signal. Voice callers will experience a delay of up to eight seconds before the call is connected to the Auto Attendant or Operator.
- For outgoing calls, the caller ID of the fax number may be sent instead of the primary business telephone number. If the recipient returns a missed call via their caller ID log, the caller will then experience the eight-second delay mentioned above.

T1 Gateway

When a T1 Gateway is installed, you can assign a DID number for the fax machine on the **Fax Configuration** WebUI page. See *"Fax Configuration" on page 119*. Incoming faxes are routed directly to that DID number (with no eight-second delay), and outgoing faxes are sent with the DID number as their caller ID.

Gateway and ATA Placement

You can place the Gateway or ATA on a tabletop, mount it into a standard 19-inch metal rack, or wall mount it. The PSTN Gateway must be installed within three feet of the building ground point. Install each device using the following instructions.

Rack Mounting

To mount the Gateway or ATA into a standard 19-inch rack:

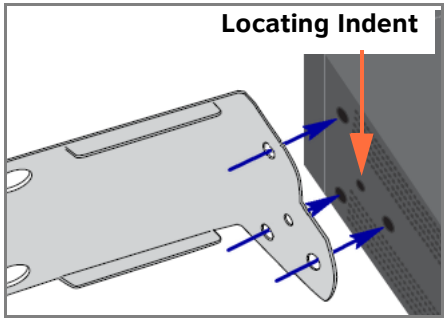


Figure 14. Rack-mount Bracket

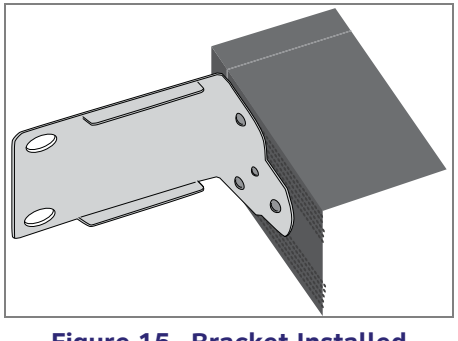


Figure 15. Bracket Installed

1. Remove the two mounting brackets and six screws from the packing tissue.
2. Position a bracket at the front of the device, as shown in Figure 14.
3. To align the screw holes, place the bracket on the device so that the locating indent on the bracket matches the indent on the device.
4. Insert each of the three screws into the holes provided and tighten securely as shown in Figure 15. Repeat the process for the other bracket.
5. Position the chassis into the 19-inch metal rack, as shown in Figure 16..
6. Insert a top mounting screw (not included) in one side and turn it several turns to establish support. Repeat for the other side.
7. Tighten the screws.

Figure 16. Rack Installation

Wall Mounting

To mount the Gateway or ATA to a wall:

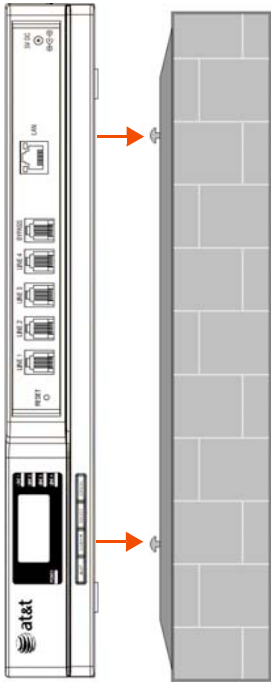


Figure 17. Gateway Wall Mounting

You can mount the Gateway or ATA to a wall using the two mounting slots on the bottom of the device. Ensure that the device is oriented as shown in Figure 17 to allow air to flow vertically through the ventilation holes on each side of the device.

1. Install two pan-head screws (with ¼-inch diameter head) 7 ⅞ inches (20 cm) apart. The screw shaft diameter should be ⅛-inch (3.2 mm). Ensure you use anchors appropriate for your mounting surface. Leave about ⅛-inch (3.2 mm) clearance between the screw head and the wall.
2. Position the device with the mounting slot centers aligned over the mounting screws. Carefully bring the device down onto the screws.
3. Slide the device downwards so that the screws go into the mounting slots on the device. Ensure the device is secure.

Grounding

The SB67010 PSTN Gateway, the SB67060 T1 Gateway, and the SB67050 Analog Terminal Adapter must be connected to reliable earth ground. The connection to earth ground must be verified by qualified personnel.

The SB67010 PSTN Gateway must be connected to reliable earth ground using the supplied ground wire connected to a terminal on the back of the Gateway chassis.

The SB67060 T1 Gateway must be connected to reliable earth ground through a separate ground wire connected to a terminal on the back of the Gateway chassis before connecting the T1 cable.

The SB67050 Analog Terminal Adapter is connected to earth ground through a properly grounded wall outlet. Additional grounding may be necessary for the ATA if you need to improve immunity to Electrostatic Discharge (ESD) and to minimize the possibility of electrical interference when using third-party audio equipment.

To provide additional grounding, the ATA can be connected to reliable earth ground through a separate ground wire connected to a terminal on the back of the ATA chassis.

To ground the Gateway or ATA:

1. Acquire a grounding cable of 18 AWG or greater gauge. For the PSTN Gateway, use the supplied grounding cable.
2. Locate the device near the building ground point, usually located at the electrical breaker box. The PSTN Gateway must be within three feet (91.4 centimeters) of the building ground point.

WARNING *If you are unsure about the location of the building ground point or how to ground the device, contact the facilities manager.*

3. Loosen the grounding terminal screw on the back of the device, as identified in Figure 18 and Figure 19.
4. Insert the end of the grounding cable under the grounding terminal.
5. Tighten the screw.
6. Connect the other end of the grounding cable to the building ground point, usually located at the electrical breaker box.

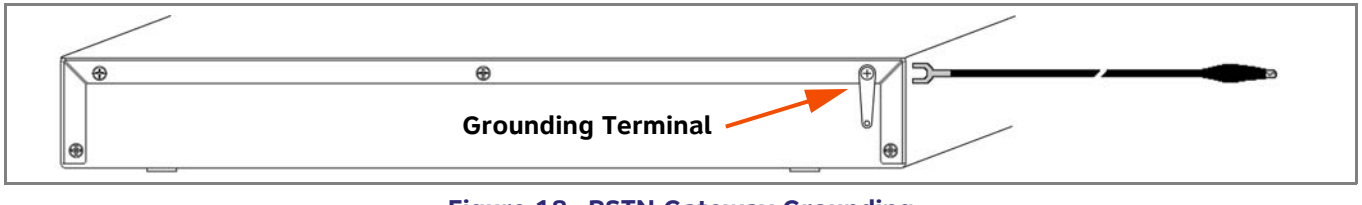


Figure 18. PSTN Gateway Grounding

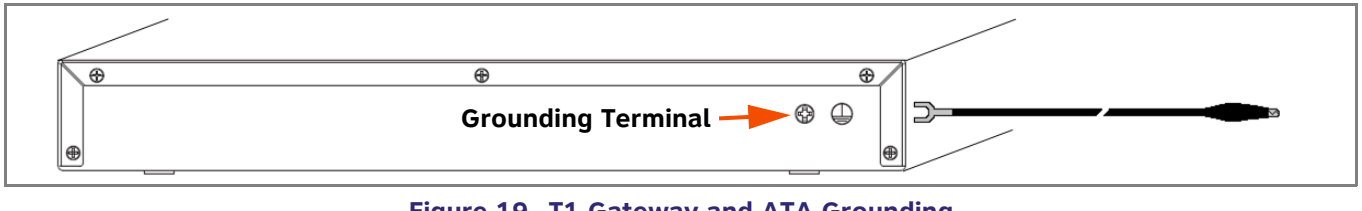


Figure 19. T1 Gateway and ATA Grounding

Gateway Installation

To install the Gateway:

1. Install a Gateway first. Plug the AC plug into an electrical outlet not controlled by a wall switch and the DC plug into the DC jack, as shown in Figure 20. Wait up to one minute until the screen lights up.

2. Plug a grey Cat.-5 LAN cable for the PSTN Gateway or yellow Cat.-6 LAN cable for the T1 Gateway into the Ethernet port marked LAN. Use the supplied cables or a comparable substitute. Plug the other end of the cable into your office LAN. The T1 Gateway is Gigabit Ethernet (GigE) capable, so it has a Cat.-6 LAN cable. The Desksets and other devices require only Cat.-5 cables.

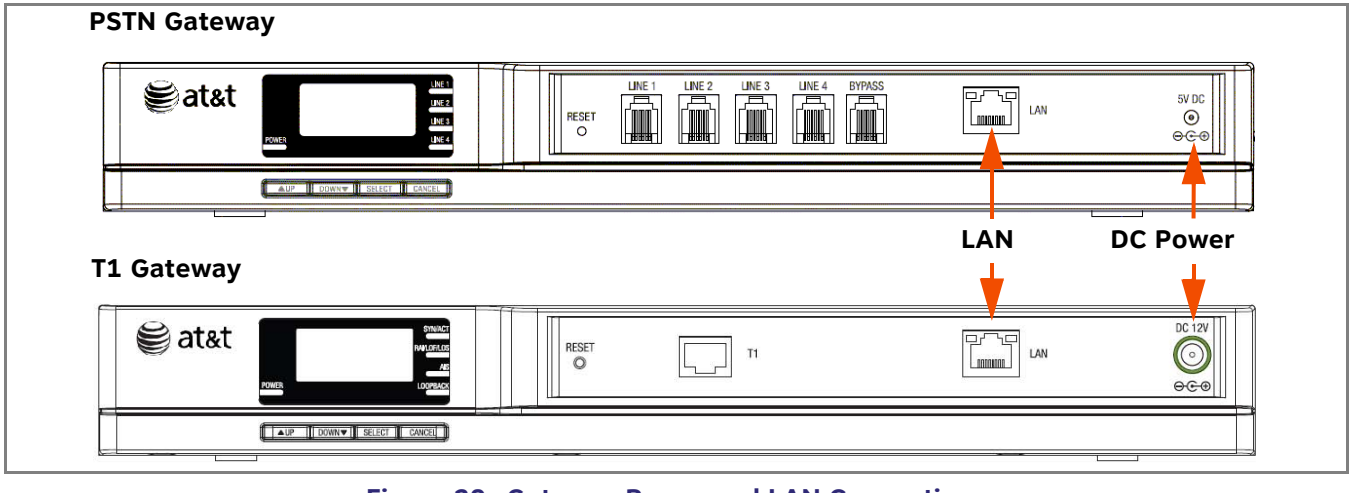


Figure 20. Gateway Power and LAN Connections

To install the Gateway: (Continued)

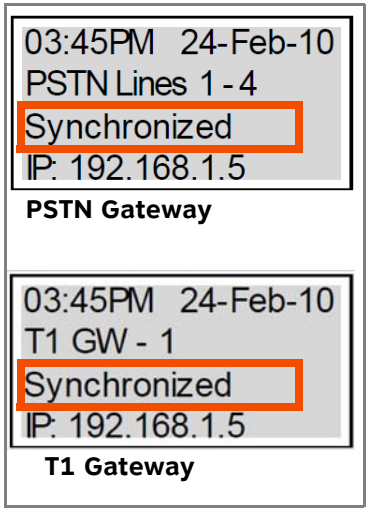


Figure 21. Synchronized

The Gateway takes about a minute to power up.

After another Synapse device is installed, and after the Gateway has found the network and the other Synapse device, **Synchronized** appears on the third line of the display, as shown in Figure 21. This is the Idle screen.

The time and date may not be correct. You can set the time and date on the **System Basic Settings** page in the WebUI or using the Deskset **Admin Settings** menu.

For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

To connect the PSTN Gateway telephone lines:

1. Remove the plastic covers from the Gateway PSTN (telephone) jacks to be used, marked **LINE 1** through **LINE 4** and **BYPASS**, as shown in Figure 22.

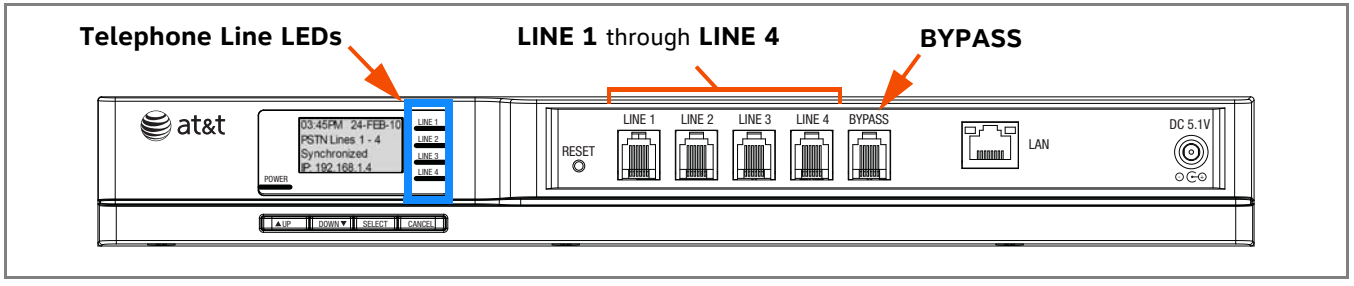


Figure 22. PSTN Gateway Telephone Line Connections

NOTE If your service provider uses Centrex lines, you must use the WebUI to enter a line access code to allow calibration to take place. Before connecting the PSTN lines, see *"Line Calibration Configuration" on page 135*.

2. Plug up to four telephone lines from the telephone wall jacks into the Gateway. The line LEDs blink for up to 15 seconds during initialization.

CAUTION *If you subscribe to Digital Subscriber Line (DSL) high-speed Internet service through your telephone line, you must plug each telephone line with DSL service into a DSL filter. Then plug the DSL filter into the telephone wall jack, as identified in Figure 23.*

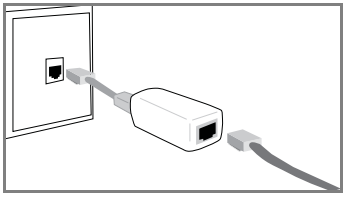


Figure 23. DSL Connection

NOTE For customer service or product information, contact the installer at the number on the cover of this guide. If your installer is unavailable, visit our website at **www.telephones.att.com/smb** or call **1 (888) 916-2007**. In Canada dial **1 (888) 883-2474**.

To connect the T1 Gateway T1 cable:

Plug the black T1 cable into the Gateway T1 Port, as shown in Figure 24, and into your T1/PRI network device from your service provider.

Do not make any calls until the POWER and the SYN/ACT LEDs are green. See *"T1 Gateway Features" on page 67*.

CAUTION *The SB67060 T1 Gateway must use only No.26 AWG or larger Telecommunications line cord to reduce the risk of fire.*

NOTE For customer service or product information, visit our website at **www.telephones.att.com/smb** or call **1 (888) 916-2007**. In Canada dial **1 (888) 883-2474**.

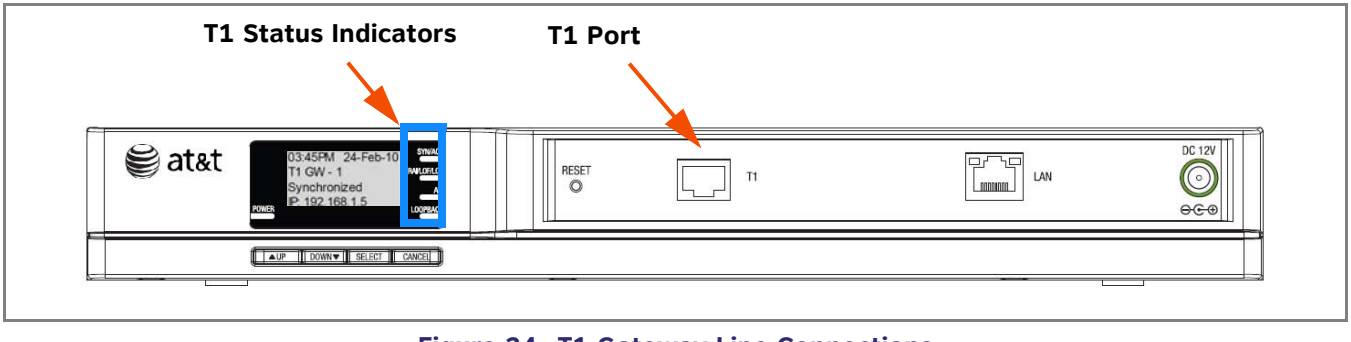
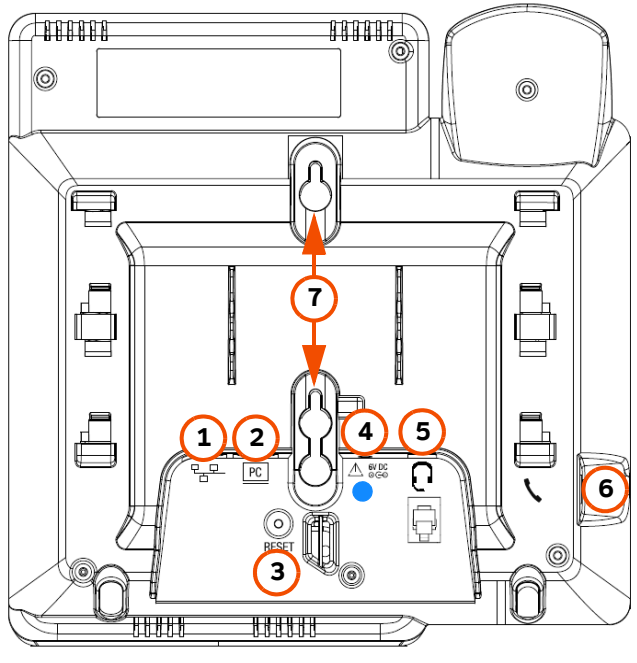


Figure 24. T1 Gateway Line Connections

Deskset Installation

Figure 25 identifies the features on the bottom and side of the Deskset. You can install the Deskset on a desktop or mount it on a wall. Figure 25 represents the SB67030/031 Deskset. Although the SB67020 is slightly different, its features have the same basic layout.

NOTE The SB67031 Deskset is compatible only with Synapse systems with software version 1.9.5 and later. Ensure you have upgraded your system to software version 1.9.5 before installing an SB67031 Deskset.



1. Network Port The two LEDs next to each network port indicate network status and AC power status.

- The green LED is on when the Deskset is connected to the network and has AC power.
- The yellow LED flashes when there is network activity.

2. PC Port

3. Reset Button

4. Power Jack SB67020 and SB67031 Desksets also support Power over Ethernet.

5. Corded Headset Jack (Actual jack location may be different than shown)

6. Corded Handset Jack

7. Wall-Mount Slots See *"To install the Deskset on a wall:" on page 50*.

Figure 25. Deskset Connections

To attach the Desktop Stand for desktop installation:

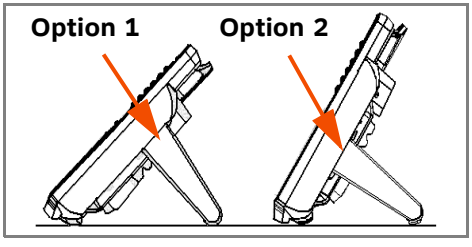


Figure 26. Deskset Stand Options

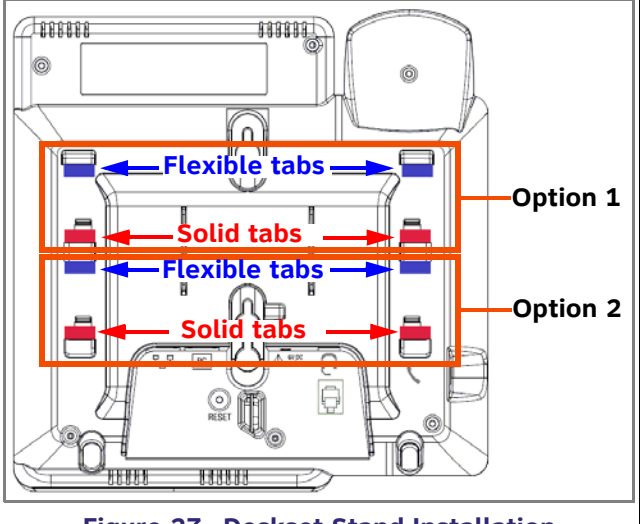


Figure 27. Deskset Stand Installation

1. Select a Deskset position. The desktop setup requires the Deskset Stand and provides two positions, Option 1 at 45° and Option 2 at 60°, as shown in Figure 26. If you use Option 2, rotate the Handset tab as explained in *"To rotate the Handset tab for wall and Deskset Option 2 installation:" on page 47*
2. Place the Deskset on a flat surface with the power and network ports facing you, as illustrated in Figure 27.
3. Place the stand, illustrated in Figure 28, on the base with the flexible tab side away from you.
4. Insert the solid tabs of the stand into the Option 1 or Option 2 slots on the base that are marked in red in Figure 27.

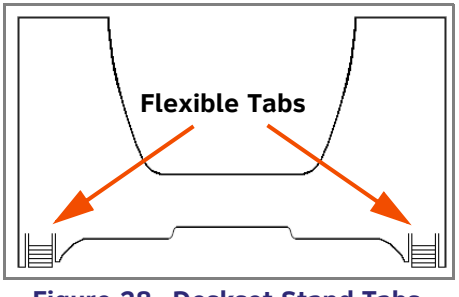


Figure 28. Deskset Stand Tabs

5. Rotate the stand away from you until it rests against the base and you hear a click as the flexible tabs lock into place.

To rotate the Handset tab for wall and Deskset Option 2 installation:

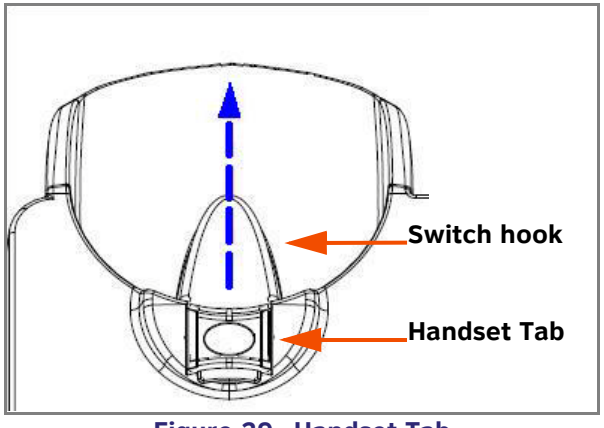


Figure 29. Handset Tab

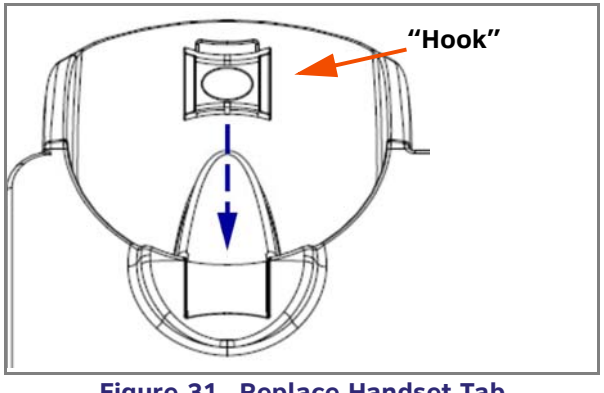


Figure 31. Replace Handset Tab

1. Press the switch hook and slide the Handset Tab toward the top of the base, as shown in Figure 29.
2. Rotate the Handset Tab 180°, as shown in Figure 30, so that the "hook" is at the top.
3. Slide the Handset Tab back into the base, as shown in Figure 31.

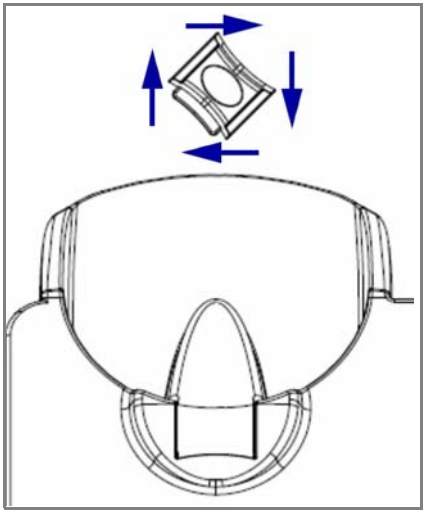


Figure 30. Handset Tab Rotation

To connect the Cat.-5 LAN cable to the Deskset:

With a PC:

If there is a networked computer and no extra Ethernet wall jacks near the Deskset, then plug the PC Ethernet cable into the Deskset so the Deskset and PC share the same network connection.

1. Unplug the Cat.-5 Ethernet cable from your computer.
2. Plug that Cat.-5 Ethernet cable into the Network port on the back of the Deskset, as indicated in Figure 32.
3. Plug another Cat.-5 Ethernet cable into the PC port on the Deskset.
4. Plug the other end of the second Cat.-5 Ethernet cable into your computer.

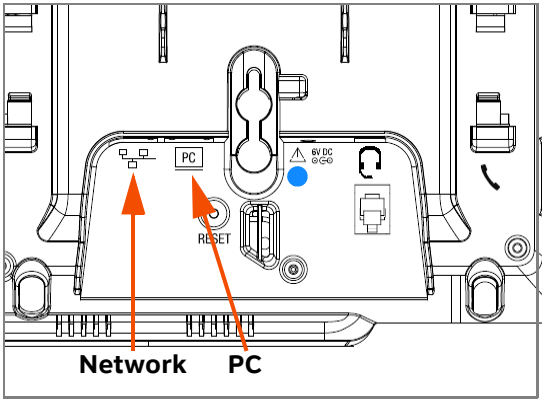


Figure 32. Network Connections

- If a GigE network is being used, a computer connected through the Deskset will be limited to 100 Mbits/s. If you require a GigE Ethernet rate, use separate Ethernet connections for the Deskset and the computer so that the computer can take advantage of the greater bandwidth.
- If a PC is connected to your LAN through a Deskset, any Deskset resets and power or network interruptions will disrupt the PC's connection to the network.

CAUTION

The PC port on the Deskset is intended for connection to an end-user PC only.

- *Do not use the PC port to connect to a PC with a heavy bandwidth load (such as a network server PC or a hub, switch, or router).*
- *Do not use the PC port to extend the network. The end-user PC should be the final point. Do not use the PC port to connect to other system devices.*

To connect the Cat.-5 Ethernet cable to the Deskset: (Continued)

Without a PC:

If the Deskset has a dedicated network connection, then connect the Deskset to the network connection only.

1. Plug a Cat.-5 Ethernet cable into the Network port on the back of the Deskset, as indicated in *Figure 32 on page 48*.
2. Plug the other end into the Ethernet wall jack.

To connect power:

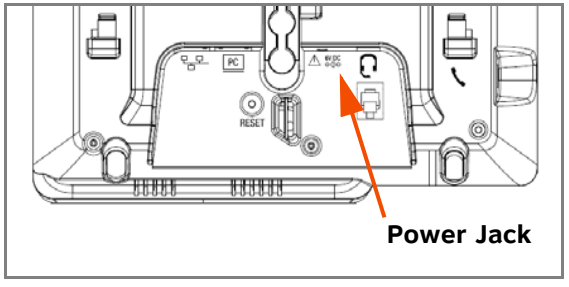


Figure 33. Power Connector

[**020/031**] If you are using PoE, connecting the Deskset to the network also connects the power.

If you are using the supplied power adapter:

1. Plug the power adapter (blue tag) into the DC Power jack on the back of the Deskset, as identified in Figure 33.
2. Plug the power adapter into an outlet not controlled by a wall switch. The display screen illuminates within about a minute.

   If the user's computer is plugged into an uninterruptible power supply (UPS), consider plugging the Deskset into it, too.

To install the Deskset on a wall:

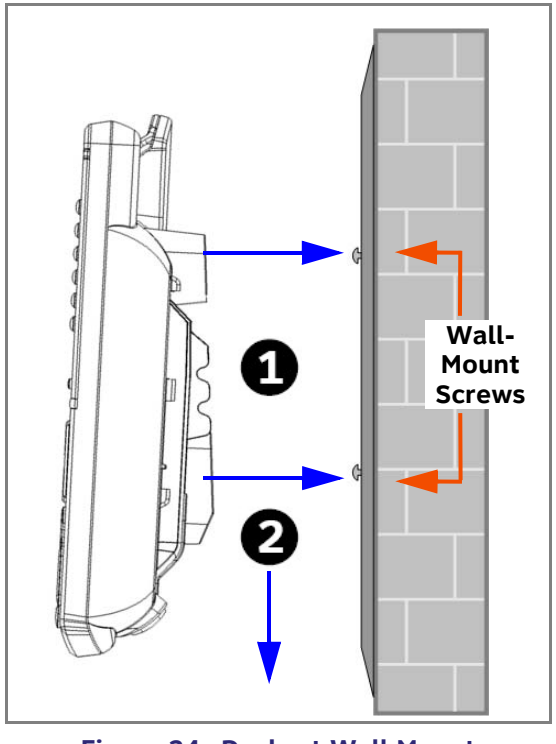


Figure 34. Deskset Wall Mount

1. Plug the Ethernet cable into the port on the back of the deskset. (See *"To connect the Cat.-5 LAN cable to the Deskset:" on page 48*.)
2. Plug the power adapter into the jack on the back of the deskset. Skip this step if using POE. (See *"To connect power:" on page 49*.)
3. Place the Deskset base over the mounting plate above the mounting studs as shown in ❶.
4. Slide the Deskset base down as shown in ❷.
5. Plug the Ethernet cable into the wall jack.
6. Plug the power adapter into a power outlet not controlled by a wall switch. Skip this step if using PoE.
7. Make sure the Handset Tab is in Wall position, as described in *"To rotate the Handset tab for wall and Deskset Option 2 installation:" on page 47*.
8. Connect the corded handset to the handset jack on the left side of the telephone.

To connect the corded handset and an optional corded headset:

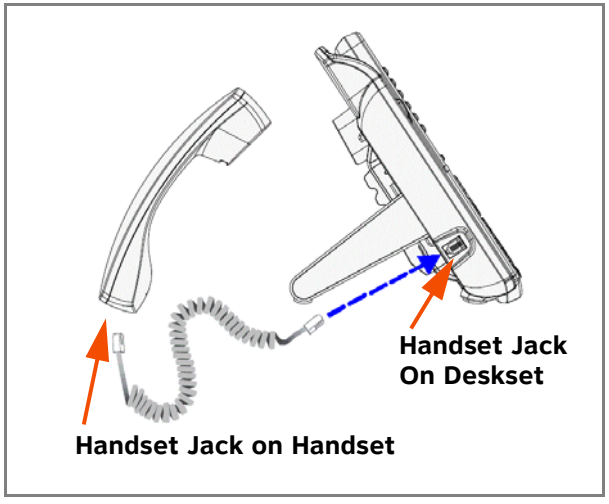


Figure 35. Handset Cord Connection

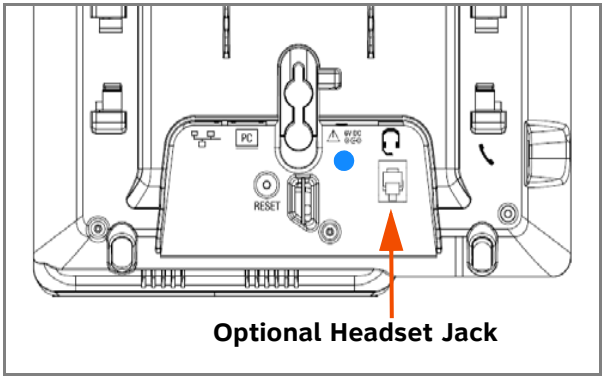


Figure 36. Install Optional Headset

Connect the corded handset:

1. Plug the coiled end of the handset cord into the handset jack on the left side of the telephone, as identified in Figure 35.
2. Plug the end of the handset cord with the longer straight portion into the handset, then hang up.

Connect an optional corded headset:

Plug an optional corded headset or cordless headset base into the RJ-9 connector on the bottom of the Deskset, as indicated in Figure 36.

[**030/031**] A headset plugged into this jack takes precedence over a registered AT&T TL7600 Cordless Headset.

CAUTION *Do not plug a headset into the jack for the corded handset.*

SB67050 ATA Installation

To install the ATA:

1. After installing at least one Deskset, plug the AC plug into an electrical outlet not controlled by a wall switch and the DC plug into the DC jack, as shown in Figure 37. Wait up to one minute until the screen lights up.

CAUTION

To prevent the loss of ATA-supported services during power outages, plug the AC power plug into an Uninterruptible Power Supply (UPS).

2. Plug a Cat.-5 Ethernet cable into the port marked LAN. Plug the other end of the Ethernet cable into your office LAN.

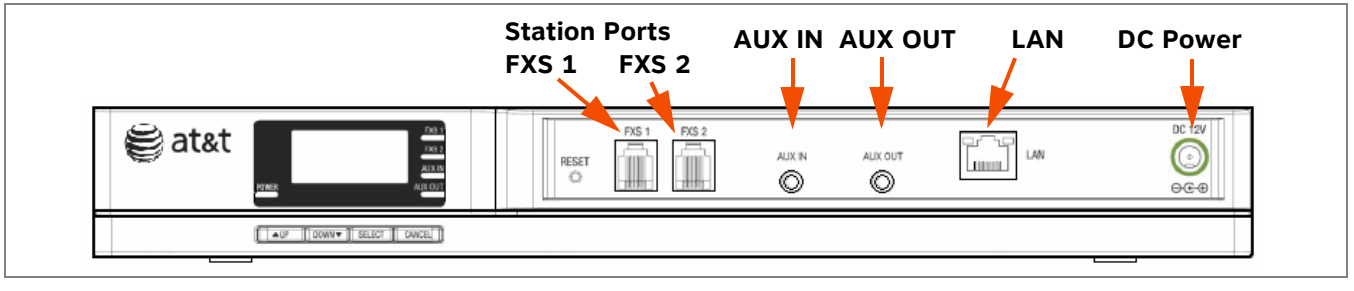


Figure 37. ATA Power, LAN, and Station Port Connections

The ATA takes about a minute to power up.

After the ATA has found the network and the Gateway, **Synchronized** appears on the third line of the display, as shown in Figure 38. This is the Idle screen.

The time and date may not be correct. The time and date are set using the WebUI. See *"System Settings" on page 94*.

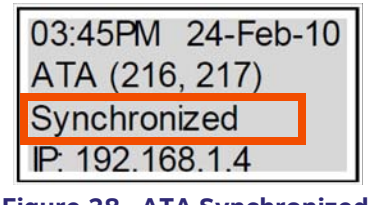


Figure 38. ATA Synchronized

3. Remove the plastic covers from the FXS station ports that you are using, as shown in Figure 37.

Connecting Analog Telephones

To install analog telephones:

1. Remove the plastic covers from the **FXS 1** and **FXS 2** (telephone) ports to be used on the ATA.
2. Plug up to two telephone lines from analog telephones into the ATA **FXS 1** and **FXS 2** ports, as shown in Figure 39.

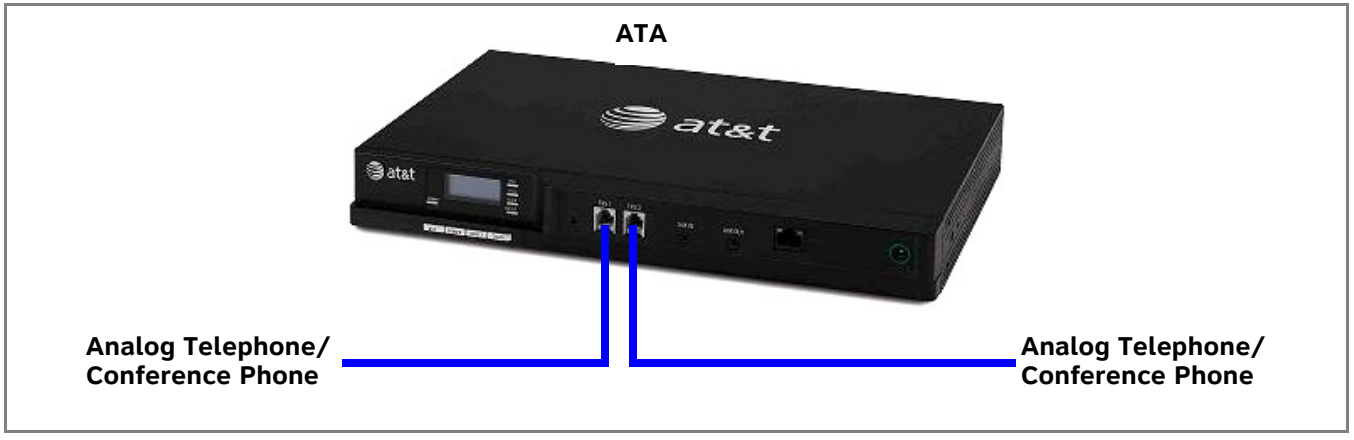


Figure 39. ATA Analog Telephone Installation

Connecting a Fax Machine

To install a fax machine:

1. Remove the plastic covers from the **FXS 1** or **FXS 2** (telephone) port to be used on the ATA.
2. Plug a telephone line from the fax machine into the ATA **FXS 1** or **FXS 2** port, as shown in Figure 40.
3. Configure the fax connection in the WebUI.

   See "*"Fax Settings" on page 121*" for information on configuring the ATA to work with your fax machine.

Figure 40. ATA Fax Machine Installation

NOTE If you are connecting your fax machine to the ATA and your Synapse system uses a trunk prefix, such as 9, you should inform users that they need to dial the trunk prefix when sending faxes.

Connecting an Overhead Paging System (OHP)

A Single Zone or Multi-Zone system can be integrated into an existing Synapse network. The control unit or analog amplifier for the Overhead Paging system connects directly to the ATA via an FXS or the AUX OUT jack, depending on the type of paging system. Synapse supports most OHP systems that support PBX station ports or auxiliary audio-out connections to a PBX. Some settings for the OHP may have to be changed to work with Synapse.

If you don't know whether your OHP is Single Zone or Multi Zone, see *"Overhead Paging Overview" on page 22*. There are so many types of paging equipment that you may need to contract with a communications equipment professional to install the OHP.

NOTE

Whether you are replacing a phone system and using an existing (already working) OHP, or installing a new OHP, the paging system may have settings that need to be adjusted to work with Synapse.

OHPs that are "Line Mode" that cannot be set to "Station Mode" cannot be used with Synapse.

If you want to connect a single-zone paging system to the AUX OUT jack, you may need to buy or make a custom cable.

Figure 41. ATA Overhead Paging System Installation

To install an overhead paging system:

1. Remove the plastic cover from the **FXS 1** or **FXS 2** port to be used on the ATA.
2. Plug the telephone line from the OHP device into the **FXS 1** or **FXS 2** port, or plug an audio cable from the OHP device into the ATA **AUX OUT** jack, as shown in *Figure 41 on page 55*, depending on the requirements of the paging system.

   If you need to hard-wire a connection between your OHP device and the ATA **AUX OUT** jack, you can use the supplied auxiliary audio cable as follows:

   a. Remove the 3.5 mm audio jack from one end of the cable.

   b. Strip enough shielding from the cable to expose the three wires inside.

   c. Identify the Tip (Left channel) and Ground wires. Depending on the cable, the Tip wire may be white, the Ground wire may be bare/unshielded, and the Ring (Right channel) wire may be red, as shown in Figure 42. You can use a voltmeter to properly identify the wires.

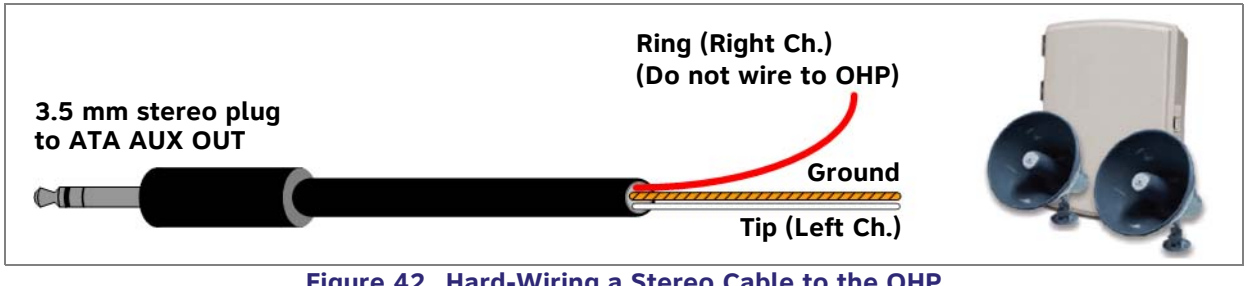


Figure 42. Hard-Wiring a Stereo Cable to the OHP

   d. Trim the Ring (Right channel) wire to ensure it does not contact other wires or terminals.

   e. Connect the Ground wire to the negative terminal and the Tip wire to the positive terminal on the OHP device.

   f. Plug the 3.5 mm jack on the other end of the cable into the **AUX OUT** port on the ATA.

3. Enable the OHP device in the WebUI. See the *"Setting Up Overhead Paging" on page 122* for information on configuring an OHP device.

Connecting a Music on Hold Source

To install a music on hold source:

1. Use the supplied Auxiliary Audio Cable to plug a streaming audio source, such as a radio or MP3 music player, into the ATA **AUX IN** jack as shown in Figure 43. If the supplied cable does not connect to your music source, use another cable that will connect your device to the 3.5 mm **AUX IN** jack. This audio source must have a volume control. The volume adjustment on the audio device should be set to obtain the preferred level of music on hold within the system.

NOTE

The ATA **AUX IN** jack is set up to receive headset-out audio signals. Do not connect to a "Line-Out" audio source or to speaker outputs.

On-hold music functionality should only be used in conjunction with music specifically licensed for on-hold use. Licensed on-hold music is available from many third-party suppliers. AT&T disclaims any liability arising from the failure to obtain such a license.

2. Enable Music on Hold under **Hold Settings** in the WebUI.

For more information, see "Hold Settings and Music on Hold (Requires ATA)" in the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

Figure 43. ATA Music on Hold Source Installation

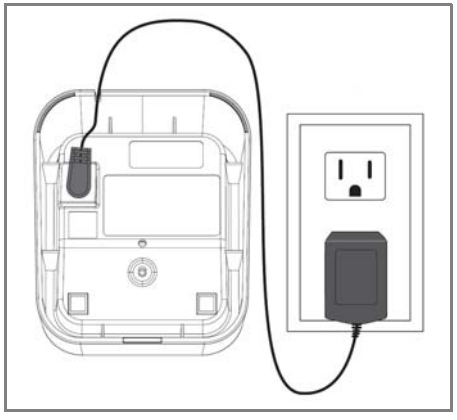
SB67040 Cordless Handset Installation

NOTE The SB67040 Cordless Handset requires registration to an SB67030/031 Deskset. The SB67020 Deskset does not support the SB67040 Cordless Handset.

The SB67040 Cordless Handset is not supported when the system is in Line Appearance mode.

Charger Installation

Place the Handset in the charger when not in use.

To plug the Handset charger into AC power:	
 **Figure 44. Handset Charger Power Connect**	1. Plug the power adapter into an electrical outlet not controlled by a wall switch. 2. Plug the small end of the power adapter into the jack on the underside of the charger. 3. Route the cord through the slot, as shown in Figure 44.

Battery Installation

The Handset uses a rechargeable 2.4v nickel-metal hydride cell (NiMH) battery pack.

To install the Handset battery:

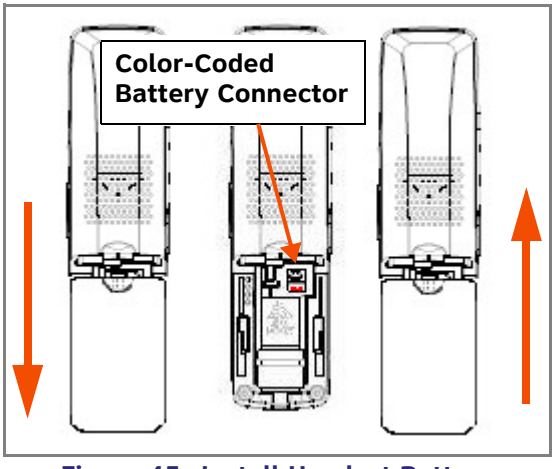


Figure 45. Install Handset Battery

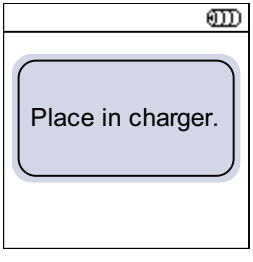


Figure 46. Place in Charger

1. Remove the battery cover by pressing and sliding the cover downward, as shown in Figure 45.
2. Plug the battery connector securely into the plug inside the Handset battery compartment, matching the color-coded label.

NOTE

Use only the supplied rechargeable battery or replace it with battery model BT8001. To obtain a replacement battery, visit our website at **www.telephones.att.com/smb** or call **1 (888) 916-2007**. In Canada, dial **1 (888) 883-2474**.

3. Place the battery in the compartment with THIS SIDE UP facing up.
4. Align the cover flat against the battery compartment, then slide it upward until it clicks into place.

   If the battery has enough charge, within 10 seconds the LCD displays the **Place in charger** screen shown in Figure 46. If there is no charge, the screen remains blank.
5. Place the Handset in the charger.

Battery Charging

Charge the Handset battery for at least 16 hours before use. When fully charged, the Handset battery provides approximately five hours of talk time or three days of standby time.

To charge the Handset battery:

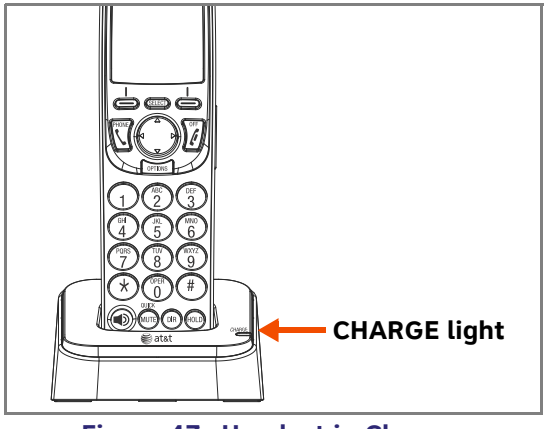


Figure 47. Handset in Charger

Place the Handset in the charger, as shown in Figure 47.

- The **CHARGE** light is on when the Handset is charging.
- If the Handset has not yet been registered, the Register screen shown in Figure 48 appears within 15 seconds.

Figure 48. Register Screen

See the "Handset Registration" section in the AT&T SB67040 Cordless Accessory Handset Quick Start Guide that was packaged with the Handset and available at **www.telephones.att.com/synapseguides**.

NOTE Place the Handset in the charger when not in use.

TL7600 Cordless Headset Installation

NOTE The TL7600 Cordless Headset requires registration to an SB67030/031 Deskset. The SB67020 Deskset does not support the TL7600 Cordless Headset.

Charger Installation

To install the TL7600 charger:

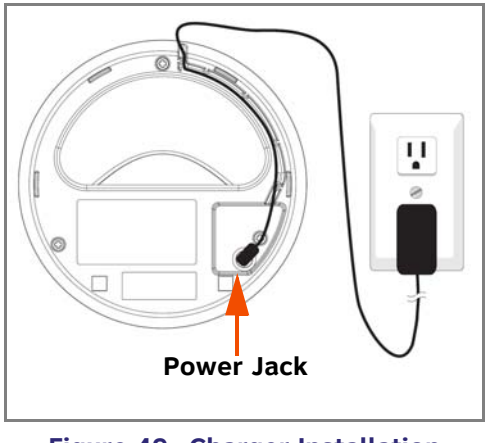


Figure 49. Charger Installation

1. Plug the small end of the charger power adapter into the jack on the underside of the charger, then route the cord through the slot as shown in Figure 49.
2. Plug the large end of the charger power adapter into an AC wall outlet not controlled by a wall switch.

Battery Installation

Install the battery as shown below. For optimal performance, charge the Headset battery for at least six hours before use. When not in use, recharge the Headset by returning it to the Headset charger.

To install a battery:

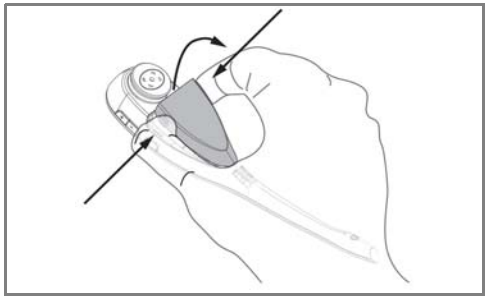


Figure 50. Remove Battery Door

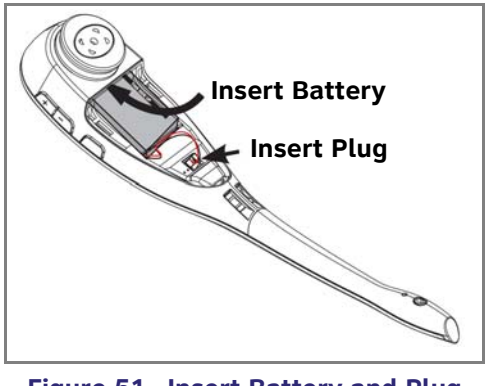


Figure 51. Insert Battery and Plug

1. If the battery door is attached, press on both sides of the battery compartment cover and lift the cover up and off as shown in Figure 50.
2. Insert the battery into the battery compartment with the label THIS SIDE UP facing up as shown in Figure 51.

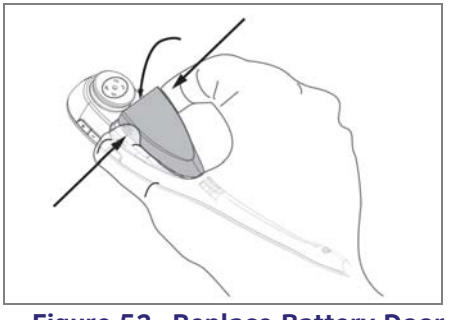


Figure 52. Replace Battery Door

3. Push the battery plug into the connector inside the compartment according to the color-coded label and place the wires neatly inside the compartment as shown in Figure 51.
4. Insert the tab on the bottom of the battery cover into the battery compartment. Press down gently on the battery cover until it snaps into place as shown in Figure 52.

NOTE

Remove the ear hook from the Headset before battery replacement.

Use only the supplied rechargeable battery or replace it with battery model BT191545. To obtain a replacement battery, visit our website at **www.telephones.att.com/smb** or call **1 (888) 916-2007**. In Canada, dial **1 (888) 883-2474**.

Battery Charging

After installing the battery, charge the Headset by placing it in the Headset charger as shown below. Before registration, the Headset **ON/OFF** light flashes twice every five seconds whether the Headset is charging or not. After registration, the Headset **ON/OFF** light is on when the Headset is charging.

To charge the battery:

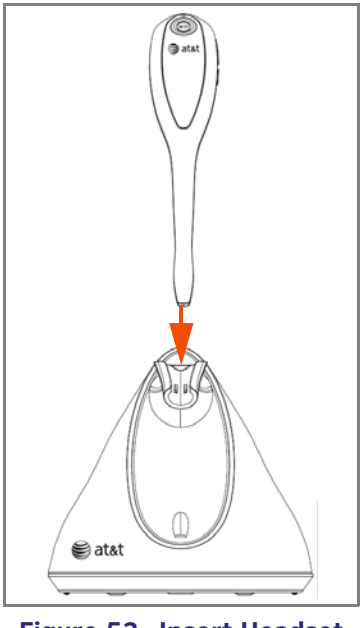


Figure 53. Insert Headset

1. Insert the Headset into the charger as shown in Figure 53.
2. Push the Headset downward until the **ON/OFF** light on the Headset turns on as shown in Figure 54.

   If the Headset has not yet been registered, the **ON/OFF** light flashes blue and orange.

   To register the Headset, use the process described in "Registering an Optional Cordless Headset" in the AT&T SB67030/031 Deskset and Accessories User's Guide at **www.telephones.att.com/synapseguides**.

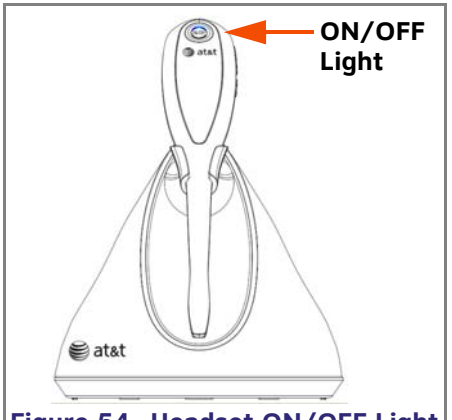
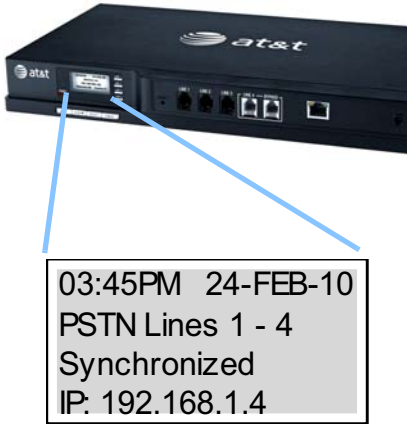


Figure 54. Headset ON/OFF Light

NOTE Place the Headset in the charger when not in use.

CHAPTER
2
GETTING STARTED



This chapter gets you started with configuring the Synapse system from the devices. Most of these functions are duplicated in the easier-to-use WebUI described in the next chapter, but if you need to assign static IP addresses, they must be set at each device. You can only directly reset a device from the device, although some functions in the WebUI include device resets.

This chapter covers:

- *"PSTN Gateway Features" on page 65*
- *"T1 Gateway Features" on page 67*
- *"Gateway Front Panel Interface" on page 69*
- *"ATA Features" on page 74*
- *"Resetting Devices" on page 80*
- *"Deskset IP Settings" on page 82*
- *"Upgrade Deskset Software" on page 86.*

PSTN Gateway Features

Figure 55 illustrates the PSTN Gateway features and connections.

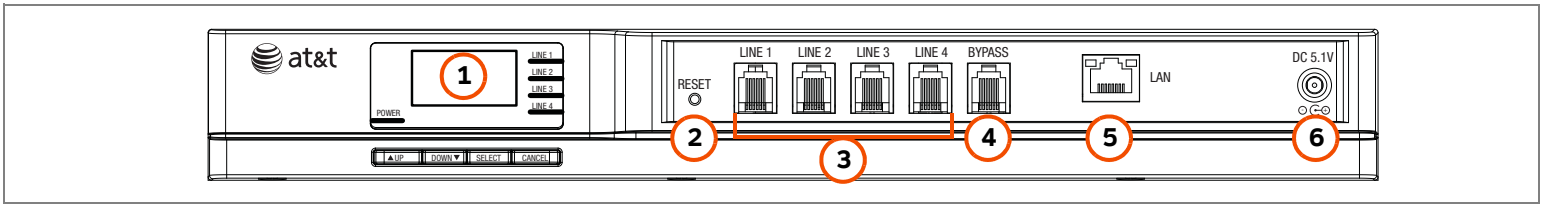


Figure 55. PSTN Gateway Features and Connections

1. Display	Provides system and network status, device information, and configuration data. See *"Gateway Front Panel Interface" on page 69*.
2. Reset	When pressed momentarily, restarts the Gateway. When pressed and held for more than five seconds and with the LAN cable not connected, restores factory defaults.
3. PSTN Line Ports 1–4	Traditional 2-conductor wiring (FXO—Foreign Exchange Office Ports).
4. Bypass Port	Traditional analog POTS (Plain Old Telephone Service) that is available during an AC power outage. When the Gateway power fails, calls on Line 4 are routed to the bypass line.
5. RJ-45 Ethernet Network Port	10Base-T/100Base-Tx with Auto MDI/MDI-X switching.
6. DC 5.1V Power-Supply Jack	

Figure 56 provides an illustration and description of the PSTN Gateway front panel.

Key	Used To:	LED	Description
▲ UP DOWN▼	Navigate through the menus, and to increase/decrease editable fields. Highlight the previous or next item in the list, respectively.		Line-status LEDs indicate the status for each PSTN line. Indications include: **Off** – Connected. **Red** (steady) – Disconnected. **Green** (steady) – In use. **Green** (flashing) – Ringing. Line-status LEDs flash red after lines are connected (while matching line impedance).
SELECT	Display the Main menu when in idle mode or while in network detection mode; save current setting and return to previous menu.		
CANCEL	Terminate current operation without saving new settings and to return to the previous menu.		**Off** – No power to the device. **Green** – Power is present.

Figure 56. PSTN Gateway Front Panel Description

T1 Gateway Features

Figure 57 illustrates the T1 Gateway features and connections.

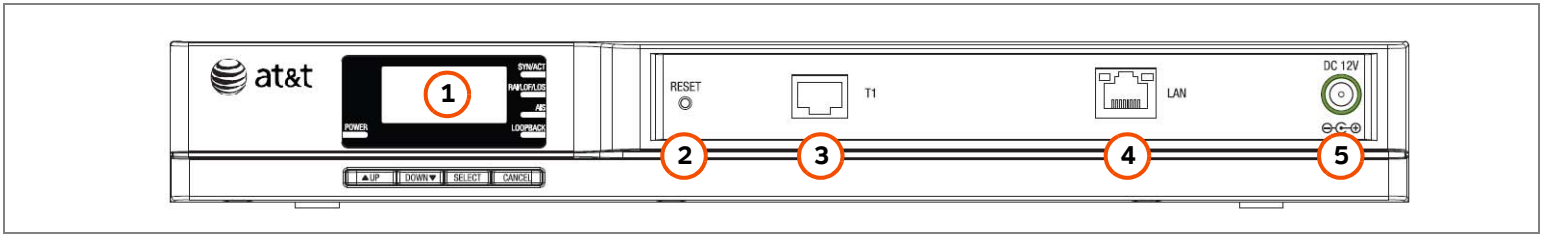
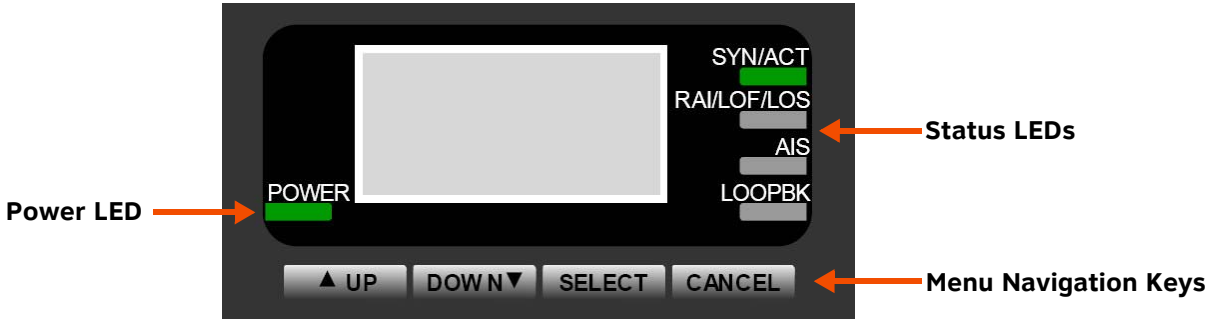


Figure 57. T1 Gateway Features and Connections

1. Display	Provides system and network status, device information, and configuration data. See *"Gateway Front Panel Interface" on page 69*.
2. Reset	When pressed momentarily, restarts the Gateway. When pressed and held for more than five seconds and with the LAN cable not connected, restores factory defaults.
3. T1 Port	
4. RJ-45 Ethernet Network Port	10Base-T/100Base-Tx with Auto MDI/MDI-X switching.
5. DC 12V Power-Supply Jack	

Figure 58 provides an illustration and description of the T1 Gateway front panel.



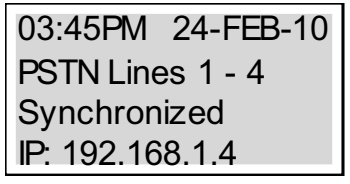
Key	Used To:	LED	Description
▲ UP DOWN▼	Navigate through the menus, and to increase/ decrease editable fields. Highlight the previous or next item in the list, respectively.	SYN/ACT	**Off** – T1 is not synchronized with T1 network. **Green** – T1 Synchronization. **Green** (flashing) – Active call.
SELECT	Display the Main menu when in idle mode or while in network detection mode; Save current setting and return to previous menu.	RAI/LOF/LOS	**Off** – No RAI/LOF/LOS errors. **Yellow** – Remote Alarm Indication (RAI). **Red** (steady) – Loss Of Frame (LOF). **Red** (flashing) – Loss Of Signal (LOS).
CANCEL	Terminate current operation without saving new settings and to return to the previous menu.	AIS	**Off** – No Alarm Indication Signal. **Blue** – Alarm Indication Signal.
POWER	Off – No power to the device. **Green** – Power is present.	LOOPBK	**Off** – Network not in local loopback mode. **Green** (steady) – Network Loopback. **Green** (flashing) – Payload Loopback. **Red** – T1 Gateway is not synchronized with the LAN.

Figure 58. T1 Gateway Front Panel Description

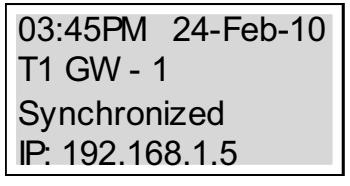
Gateway Front Panel Interface

You can access basic information and perform some configuration tasks using the Gateway's front panel. Most of these tasks are easier to do using the WebUI. See *"The Web User Interface (WebUI)" on page 89*.

The Gateway displays the Idle screen upon completion of the power-up sequence. Use the Gateway Main menu to perform some system operations.



PSTN Gateway



T1 Gateway

Figure 59. Gateway Idle Screens

- To access the Gateway Main menu from the Idle screen, as shown in Figure 59, press the SELECT key. The menu provides the following functions:
  - **Device Information**
  - **Network Status**
  - **Configuration**

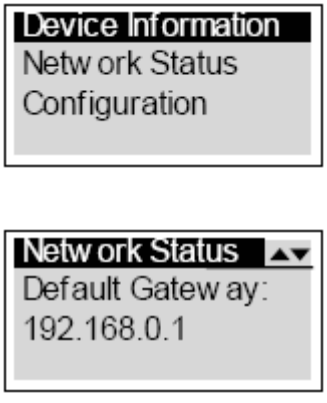


Figure 60. Gateway Menu Screens

- Press the DOWN▼ key to highlight an entry, as shown in Figure 60, then press SELECT to see information about your Gateway or your Network. Select **Configuration** to view or modify some Gateway settings. Here is the information you can see in Device Information and Network Status:

Device Information

- Model #
- Serial #
- Boot Version
- Software Version
- Firmware Version

NOTE The T1 Gateway does not display its firmware version.

Network Status

- IP Address
- Subnet Mask
- Default Gateway
- DNS Server X
- MAC Address
- Network Port
- Local Address

Gateway Configuration

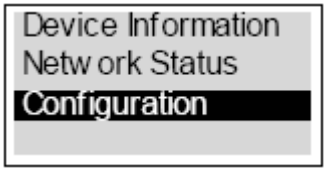


Figure 61. Gateway Configuration

Press ▲UP/DOWN▼ in the Gateway Main menu until **Configuration** is highlighted, as shown in Figure 61, and press SELECT to display the Configuration menu. The current setting is indicated with [X]. You can use this interface or the WebUI to upgrade software.

Configuration — Current Gateway settings.

- Auto IP — Is set automatically.
- Static IP — You can change the static IP only from the Gateway. See your network administrator if you require details regarding IP assignments.
- Restore Defaults — Highlight **Restore Defaults** and press and hold SELECT for two seconds when prompted to restore the Gateway to factory defaults.
- Upgrade Software — Highlight **Upgrade Software** and press SELECT. If new software is available, you are prompted to press SELECT again to accept the upgrade.

Upgrade Gateway Software

If you have system settings that you want to retain, back up the settings before upgrading the system software.

To upgrade the Gateway software to the latest version:

Figure 62. Upgrade Software

1. Press ▲UP / DOWN▼ in the Gateway Main menu until **Configuration** is highlighted and press SELECT to display the Configuration menu, as shown in Figure 62.
2. Press DOWN▼ to highlight **Upgrade Software** and press SELECT to initiate the software upgrade process. The device initiates a link to the Synapse Software Updates web site host and any new software.
   - If a host cannot be found or the server name cannot be resolved, **Timeout** or **Host Not Found** appears. Upgrade the software from the PC, which can offer more information about connection issues. See *"To manually update a device to the latest software version:" on page 139*.
   - If the host is found, but there is no new software available, then the **No New Version** message appears.

NOTE If the device is sluggish or unresponsive during the upgrade process, see *"A Synapse device becomes sluggish or unresponsive during or immediately after software upgrade." on page 172*.

To upgrade the Gateway software to the latest version: (Continued)

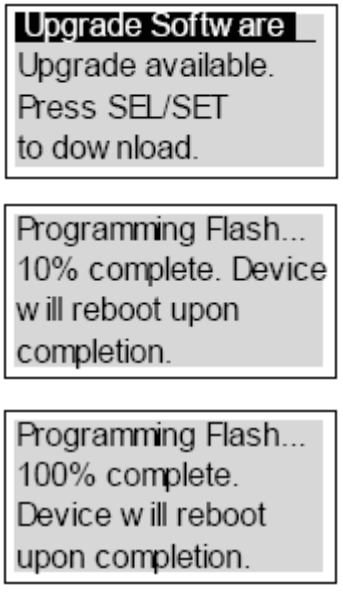


Figure 63. Downloading Software

3. If new software is available, you are prompted to initiate the upgrade by pressing SELECT, or abort by pressing CANCEL.
   - Once the downloading starts, the display indicates the progress as shown by the percentage indicator, as shown in Figure 63.
   - If the upgrade process is interrupted by removing the server connection, no restart occurs. The Gateway remains on the xx% complete screen, until an action is taken at that Gateway. The process does not resume even after the server connection is reestablished.
   - Pressing CANCEL during the programming process terminates the download midstream and returns you to the Configuration menu. The previous software version remains in effect.
   - When the upgrade is complete, the screen briefly displays **100% complete**, then **0% complete** for few seconds, before restarting the Gateway.
4. Press CANCEL repeatedly until you return to the Gateway Main menu.

ATA Features

When the ATA is first connected to your LAN, the two FXS ports are configured as POTS phone lines and assigned the next available extension numbers. ATA extension numbers do not appear in the Extension list on Deskset screens. They do, however, appear on Call Logs, Redial lists, and Message lists. The two ATA extensions do not count toward the 100-extension limit of the Synapse system.

Configure the interface to these analog devices through the WebUI. See *"ATA Settings" on page 115*.

In addition, one 10/100BT Ethernet port is provided for communication with the Synapse network. The front panel LCD and buttons allow network configuration, firmware upgrades, and information functions. Figure 64 illustrates the ATA features and connections.

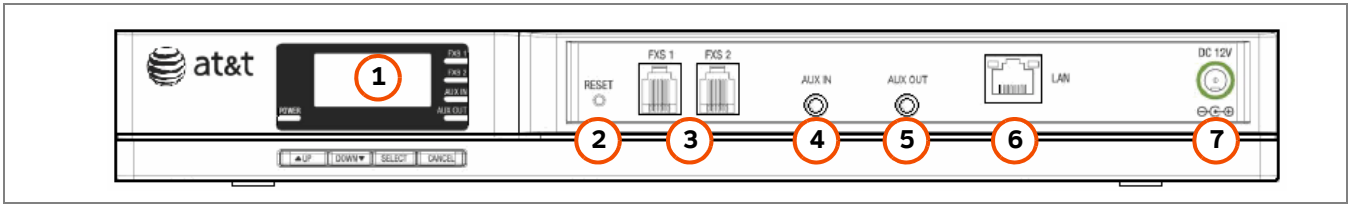
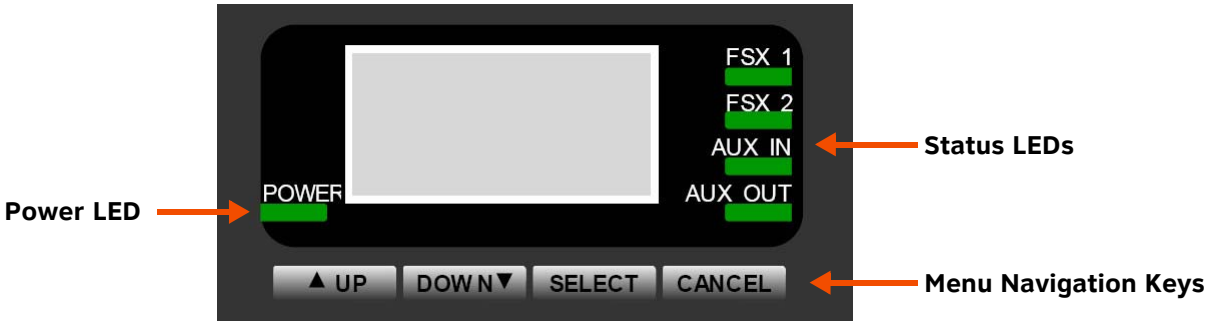


Figure 64. ATA Features and Connections

1. Display	Provides system and network status, device information, and configuration data.
2. Reset	When pressed momentarily, restarts the ATA. When pressed and held for more than five seconds and with the LAN cable not connected, restores factory defaults.
3. FXS 1, FXS 2	Station jacks for analog telephones, a fax machine, door phone, or overhead paging equipment.
4. AUX IN	Audio in for MoH.
5. AUX OUT	Audio out, an option for OHP.
6. RJ-45 Ethernet Network Port	10Base-T/100Base-Tx with Auto MDI/MDI-X switching.
7. DC 12V Power-Supply Jack	

Figure 65 provides an illustration and description of the ATA front panel.



Key	Used To:	LED	Description
▲ UP DOWN▼	Navigate through the menus, and to increase/decrease editable fields. Highlight the previous or next item in the list, respectively.	FSX 1 FSX 2	Station jack status LEDs indicate: **Off** – No connection detected or idle **Green** (steady) – Line activity detected **Green** (flashing) – Ringing
SELECT	Display the Main menu when in idle mode or while in network detection mode. Save current setting and return to previous menu.	AUX IN AUX OUT	Audio status LEDs indicate: **Off** – Not configured in the WebUI **Red** (steady) – Configured in the WebUI, but no connection detected. **Green** (steady) – Configured and connected. **Green** (flashing) – Paging active.
CANCEL	Terminate current operation without saving new settings and to return to the previous menu.	POWER	**Off** – No power to the device. **Green** – When power is present.

Figure 65. ATA Front Panel Description

ATA Front Panel Interface

You can access basic information and perform some configuration tasks using the ATA front panel. These tasks are easier to do using the WebUI. See *"The Web User Interface (WebUI)" on page 89*.

The ATA displays the Idle menu after powering up. Access the ATA Main menu to perform the system operation functions. The Idle screen is different, but the menus are the same as that of the PSTN Gateway.

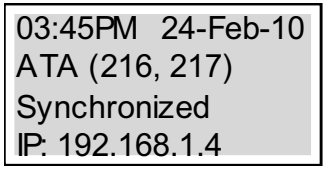
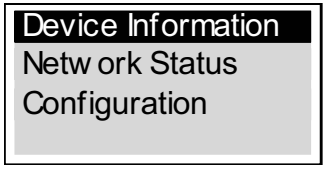


Figure 66. ATA Idle Screen



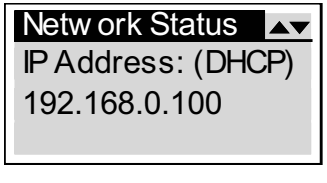


Figure 67. ATA Menu Screens

To access the ATA Main menu from the Idle screen, as shown in Figure 66, press the SELECT key. The menu provides the following functions:

- **Device Information**
- **Network Status**
- **Configuration**

Press the DOWN▼ key to highlight an entry, then press SELECT to see information about your ATA or your network, as shown in Figure 67. Select **Configuration** to view or modify some ATA settings. Here is the information you can see in Device Information and Network Status:

Device Information

- Model #
- Serial #
- Boot Version
- Software Version
- Firmware Version

Network Status

- IP Address
- Subnet Mask
- Default Gateway
- DNS Server X
- MAC Address
- Network Port
- Local Address

ATA Configuration

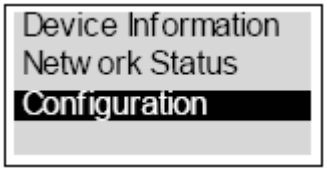


Figure 68. ATA Configuration

Press ▲UP / DOWN▼ in the ATA Main menu until **Configuration** is highlighted, as shown in Figure 68, and press SELECT to display the Configuration menu. The current setting is indicated with [X]. You can use this interface or the WebUI to upgrade software.

Configuration — Current ATA settings:

- Auto IP — Is set automatically.
- Static IP — You can change the Static IP only from the ATA. See your network administrator if you require details regarding IP assignments.
- Restore Defaults — Highlight **Restore Defaults** and press and hold SELECT for two seconds when prompted to restore the ATA to factory defaults.
- Upgrade Software — Highlight **Upgrade Software**, and press SELECT. If new software is available, you are prompted to press SELECT again to accept the upgrade.

Upgrade ATA Software

If you have system settings that you want to retain, back up the settings before upgrading the system software.

To upgrade the ATA software to the latest version:

Figure 69. Upgrade Software

1. Press ▲UP / DOWN▼ in the ATA Main menu until **Configuration** is highlighted and press SELECT to display the Configuration menu, as shown in Figure 69.
2. Press DOWN▼ to highlight **Upgrade Software** and press SELECT to initiate the software upgrade process. The device initiates a link to the Synapse software updates web site host and any new software.
   - If a host cannot be found or the server name cannot be resolved, **Timeout** or **Host Not Found** appears. Upgrade the software from the PC, which can offer more information about connection issues. See *"To manually update a device to the latest software version:" on page 139*.
   - If the host is found, but there is no new software available, then the **No New Version** message appears.

NOTE If the device is sluggish or unresponsive during the upgrade process, see *"A Synapse device becomes sluggish or unresponsive during or immediately after software upgrade." on page 172*.

To upgrade the ATA software to the latest version: (Continued)

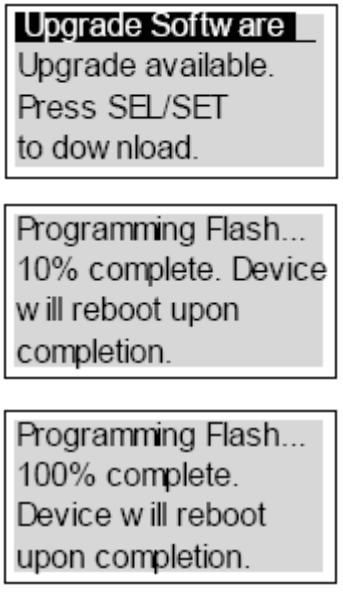


Figure 70. Downloading Software

3. If new software is available, you are prompted to initiate the upgrade by pressing SELECT, or abort by pressing CANCEL.
   - Once the downloading starts, the display indicates the progress as shown by the percentage indicator, as shown in Figure 70. The device restarts automatically once the programming is completed.
   - If the programming process is interrupted by removing the server connection, no restart occurs. The process does not resume even after the server connection is reestablished. The ATA remains on the xx% complete screen until an action is taken at the ATA.
   - Pressing CANCEL during the programming process terminates the download and returns you to the Configuration menu. The previous software version remains in effect.
   - When the upgrade is complete, the screen briefly displays **100% complete**, then **0% complete** for few seconds, before restarting the ATA.
4. Press CANCEL repeatedly until you return to the ATA Main menu.

Resetting Devices

You may need to manually restart a device or return a device to factory defaults (see *"Appendix B: Default Settings" on page 205*). To reset a device, press the **RESET** button shown in Figure 71 and Figure 72 by inserting a pen or paper clip into the hole and applying pressure to the button. The T1 Gateway and ATA (not shown) have a **RESET** button in the same location on the front panel as the PSTN Gateway. Although *Figure 72 on page 81* shows the SB67030/031 Deskset, the SB67020 Deskset reset button is in the same location.

To restart the device without losing any custom settings, press the **RESET** button for less than five seconds. You can get the same result by disconnecting and reconnecting power to the device. You can restart the device if the device does not respond or fails to synchronize with the system.

To completely reset the device to factory defaults, unplug the LAN cable and press the **RESET** button for more than five seconds. You might do this if the device is not synchronized or you want to reset the IP address settings to Auto (DHCP). Any static IP configurations are lost.

When resetting a Deskset to factory defaults, the system configuration (the user settings and Personal directory) and Voicemail messages, Call Log, and the Redial list are all deleted. You can use this complete reset when assigning Desksets to new users. If you do not disconnect the LAN cable before pressing the **RESET** button, the extension number is retained. During the reset, any PC connected to the Deskset PC port momentarily loses network connectivity.

NOTE To reset the entire system to factory defaults and completely clear the system of all settings (Auto Attendant, Ring Groups, hold message, and System Directory) and Voicemail messages, unplug the LAN cables from all devices and press the **RESET** button for more than five seconds on each device. Then reconnect all devices to the LAN.

If there is one Gateway in the system, but there are still Desksets connected, then only the voice prompts and hold messages are deleted; the rest of the Auto Attendant settings are maintained on the Desksets. If there is another Gateway, the other Gateway maintains all system configuration settings.

NOTE If you have already set up the system, back up the Deskset and system settings before resetting the device to factory defaults. For more information, see the Synapse Administrator's Guide.

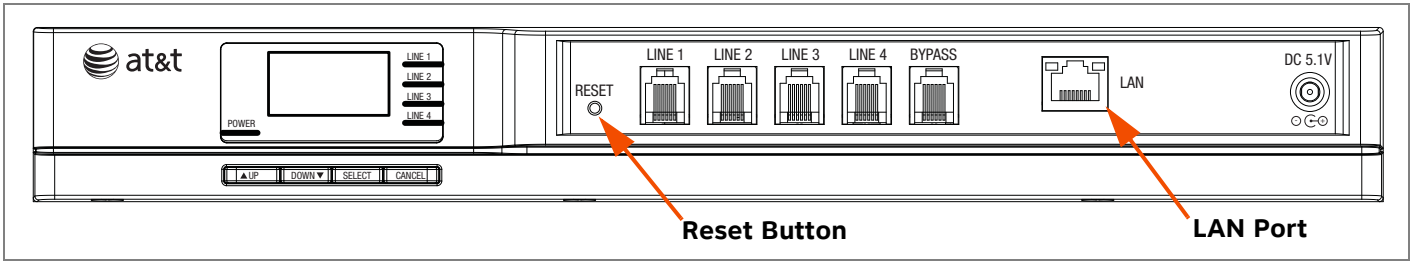


Figure 71. PSTN Gateway Reset Button

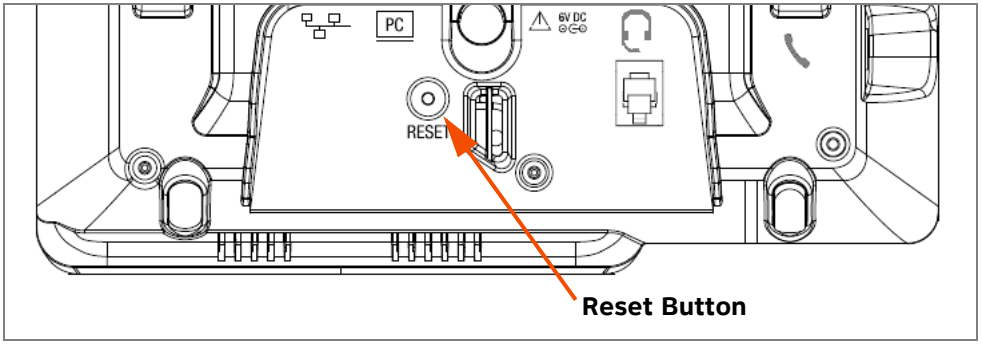


Figure 72. Deskset Reset Button

Deskset IP Settings

Synapse system devices are connected to a LAN so they can communicate with each other. See *"System Installation Overview" on page 14* for a discussion of the Synapse network configuration and IP settings.

To display the IP Settings screen:

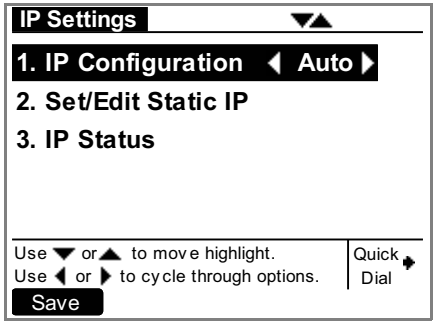


Figure 73. 030/031 IP Settings

1. Access the **Admin Settings** menu: Press **MENU**, then press **3** on the dial pad, then enter the Admin password (**12345** is the default password), and press **SELECT**.
2. Press **3** on the dial pad to display the **IP Settings** screen shown in Figure 73 and Figure 74.
3. Perform one of the following:
   a. Press **1** to select **IP Configuration**. See *"To set the IP Configuration:" on page 83*.
   b. Press **2** to select **Set/Edit Static IP**. See *"To set and edit static IP Address:" on page 84*.
   c. Press **3** to select **IP Status**. See *"To view the IP status:" on page 85*.

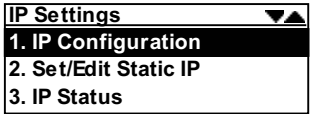


Figure 74. 020 IP Settings

To set the IP Configuration:

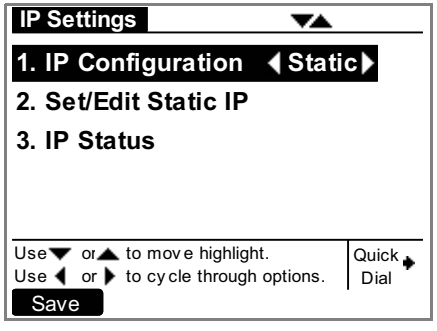


Figure 75. 030/031 IP Configuration - Static

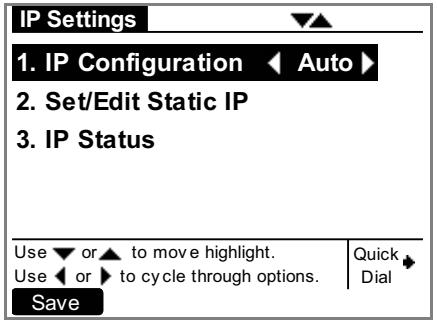


Figure 76. 030/031 IP Configuration - Auto

1. Access the **Admin Settings** menu: Press **MENU**, then press **3** on the dial pad, then enter the Admin password, and press **SELECT**.
2. Press **3** on the dial pad to display the **IP Settings** menu shown in Figure 75 and Figure 77.
3. On the 020 Deskset, press **1** to select **IP Configuration**.

   The screen shown in Figure 76 or Figure 78 appears.
4. Press the ◁ or ▷ Navigation key to select Auto or Static, as shown in Figure 76 and Figure 79.
5. Press Save to accept the changes and return to the **Admin Settings** menu.

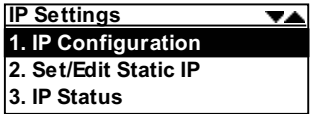


Figure 77. 020 IP Settings

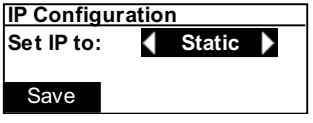


Figure 78. 020 IP Configuration - Static

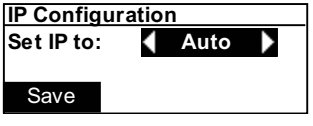


Figure 79. 020 IP Configuration - Auto

Set/Edit Static IP

If your business requires a static IP address, contact your network administrator.

To set and edit static IP Address:

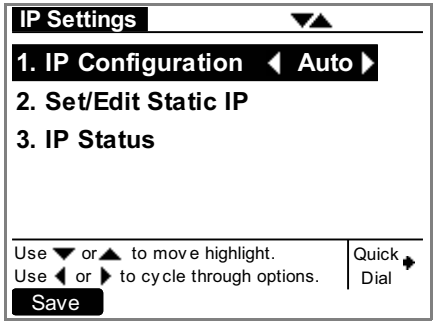


Figure 80. 030/031 IP Settings

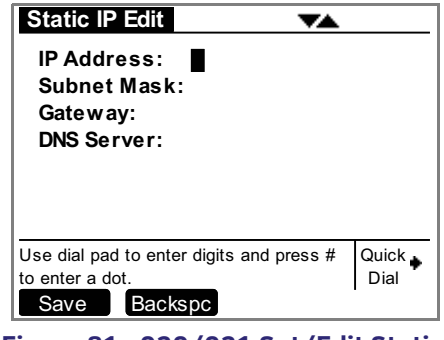


Figure 81. 030/031 Set/Edit Static IP

1. Access the **Admin Settings** menu: Press **MENU**, then press **3** on the dial pad, then enter the Admin password, and press **SELECT**.
2. Press **3** on the dial pad to display the **IP Settings** screen shown in Figure 80 and Figure 82.
3. Press **2** to display the screen shown in Figure 81 or Figure 83.
4. Enter digits:
   - There is a 12-digit limit on the number field (not including dots).
   - On the 030/031, pressing the pound key (**#**) inserts a dot. On the 020, pressing "." inserts a dot.
   - Pressing Backspc when the cursor is positioned next to a dot deletes the dot and the digit to the left of the dot.
5. Press the △ or ▽ Navigation key to cycle through the four fields.
6. Press Save to accept the changes and return to the **Admin Settings** menu.

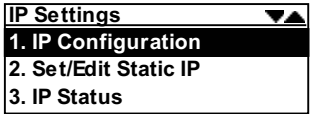


Figure 82. 020 IP Settings

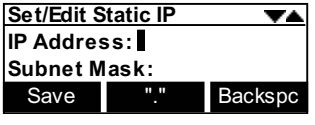


Figure 83. 020 Set/Edit Static IP

IP Status

This screen is for informational purposes only.

To view the IP status:

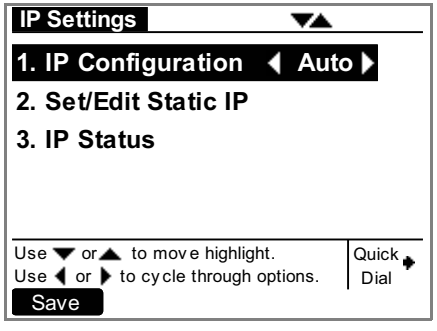


Figure 84. 030/031 IP Settings

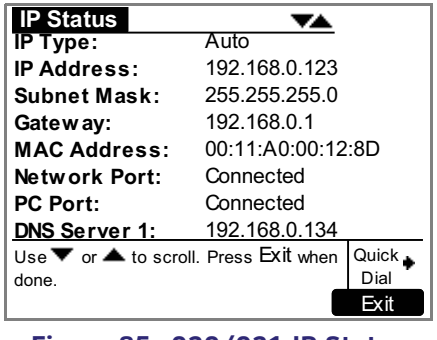


Figure 85. 030/031 IP Status

1. Access the **Admin Settings** menu: Press **MENU**, then press **3** on the dial pad, then enter the Admin password, and press **SELECT**.
2. Press **3** on the dial pad to display the **IP Settings** screen shown in Figure 84 and Figure 86.
3. Press **3** to display the **IP Status** screen shown in Figure 85 and Figure 87.
4. Press the ▲ or ▼ Navigation key to view status entries that are not shown on-screen, such as those shown in Figure 88 and Figure 89.

NOTE The list is not circular, so when you reach the end of the available text, pressing the ▼ Navigation key has no effect. If you are at the top of the screen, pressing the ▲ Navigation key has no effect.

5. Press Exit to return to the **Admin Settings** menu.

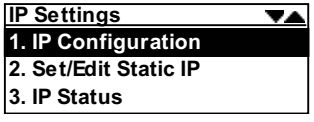


Figure 86. 020 IP Settings

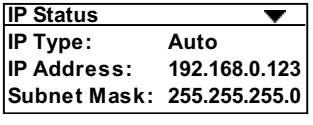


Figure 87. 020 IP Status 1

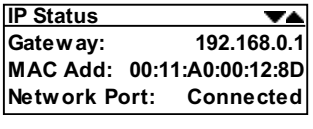


Figure 88. 020 IP Status 2

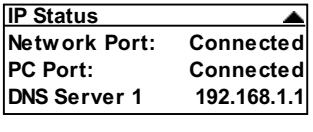


Figure 89. 020 IP Status 3

Upgrade Deskset Software

To access the Deskset Software Upgrade feature:

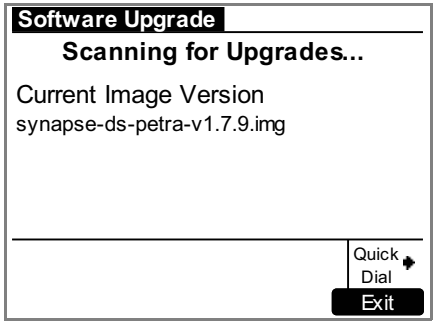


Figure 90. 030/031 Software Upgrade

Figure 91. 030/031 Upgrade Available

1. Access the **Admin Settings** menu: Press **MENU**, then press **3** on the dial pad, then enter the Admin password, and press **SELECT**.
2. Press **5** to display the screen shown in Figure 90 or Figure 92. The system scans for an upgrade.
   - If an upgrade is available, the screen shown in Figure 91 or Figure 93 appears. Press Exit [**030/031**] or Cancel [**020**] to return to the Admin Settings menu.
   - If no upgrade is available, the screen shown in *Figure 95 on page 87* or Figure 94 appears.

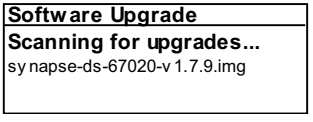


Figure 92. 020 Software Upgrade

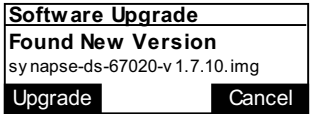


Figure 93. 020 Upgrade Available

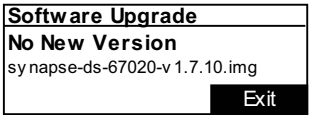


Figure 94. 020 No New Version

To access the Deskset Software Upgrade feature: (Continued)

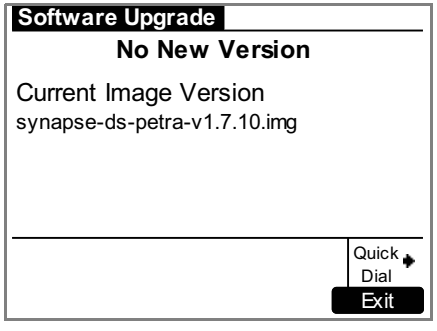


Figure 95. 030/031 No New Version

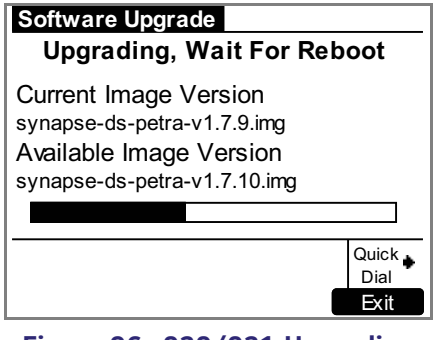


Figure 96. 030/031 Upgrading

3. Press Upgrade to install the upgrade. The screen shown in Figure 96 or Figure 97 appears.

NOTE If the device is sluggish or unresponsive during the upgrade process, see *"A Synapse device becomes sluggish or unresponsive during or immediately after software upgrade." on page 172*.

The Deskset automatically resets at the end of the software upgrade process. If a PC is connected to the Deskset that you are using, any network traffic involving that PC halts until the Deskset has resumed operation. Avoid updating the Deskset when the user is likely to be at the workstation.

See *"Updating Devices" on page 136* to update the Deskset software from the WebUI.

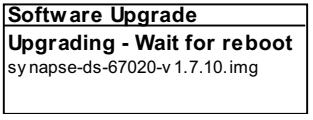
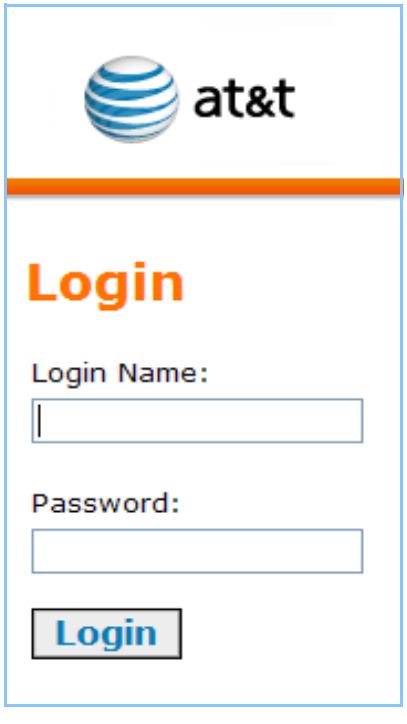


Figure 97. 020 Upgrading

CHAPTER
3
SYSTEM CONFIGURATION



The WebUI consists of web pages with editable settings that allow you to administer the system. The WebUI is embedded in every SB67010 PSTN Gateway, SB67020 Deskset, SB67030/031 Deskset, and optional SB67050 Analog Terminal Adapter (ATA). When you access the WebUI, you are accessing it on the device, not on the Internet.

If you have an optional ATA installed, use the WebUI to configure analog phone support, fax routing, external overhead paging, Music on Hold, and Private Line Automatic Ringdown.

The Web User Interface (WebUI)

The WebUI settings in this chapter are provided to enable you to commission a basic Synapse System with Gateways, Desksets, ATA, and an optional fax machine and paging system. These settings include:

- *"System Settings" on page 94*
- *"T1 Settings" on page 110*
- *"ATA Settings" on page 115*.

In addition, please see *"Updating Devices" on page 136* for important information about ensuring that Synapse devices have compatible software versions.

Please register your Synapse system to keep your system up to date with the latest upgrades and ensure timely warranty support. See *"Product Registration" on page 141*.

The feature descriptions and sample screens in this chapter demonstrate a system that includes optional devices. Your Deskset screens and WebUI pages may be different. For example, if your system does not include the ATA, the Fax Configuration, Group Mailbox, Overhead Paging, and ATA Settings items do not appear in the WebUI menu and on the Deskset screen.

WebUI Overview

If two Synapse devices are connected to the LAN, and as long as one Synapse device is currently on the same subnet as a PC, you can use the WebUI to administer the system. Only one person should log in as system administrator at a time to prevent accidentally overwriting and losing intended changes.

Any PCs used for configuring the WebUI must be connected to the same IP subnet as devices they will manage, or to other subnets that the PCs can communicate with. Confirm either that all devices are connected to the same router, or that the first three octets of the IP address are the same for all system devices. The Gateway displays its IP address in the Idle mode as shown in Figure 98. To determine the Deskset IP address, press **MENU**, then **4** on the Deskset dial pad to display the **Deskset Information** screen shown in Figure 99 and Figure 100.

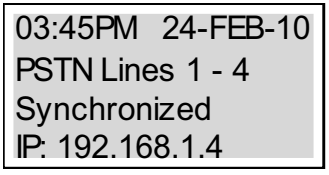


Figure 98. Gateway Idle Screen

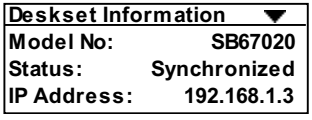


Figure 99. 020 Deskset Information

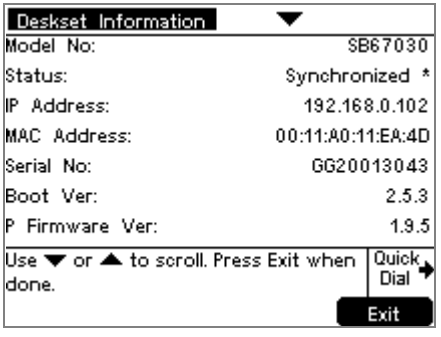


Figure 100. 030/031 Deskset Information

CAUTION *In most cases there are multiple settings on one page. Changing a setting does not instantly apply the new value. Click* Apply *on the WebUI to save all changes on that page.*

NOTE Changes made on the WebUI are transmitted to all connected devices when applied. If changes are being made at the Deskset and WebUI simultaneously, a first-come-first-served policy on resource allocation applies. System configuration changes are transmitted globally when you press Save on the Deskset or click Apply on the WebUI.

WebUI information for individual users is contained in "Web Interface" of the SB67020 Deskset User's Guide and the SB67030/031 Deskset and Accessories User's Guide at **www.telephones.att.com/synapseguides**.

Log in as Administrator

To access the browser interface and log in:

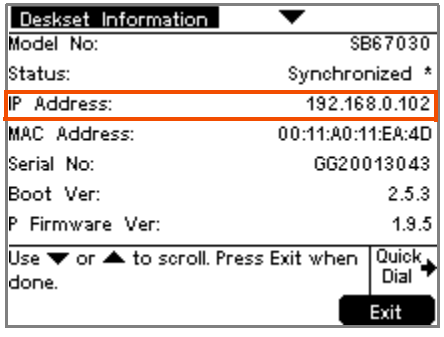


Figure 101. 030/031 Deskset Information Screen

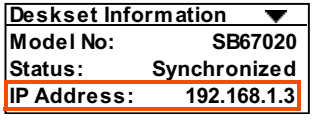


Figure 102. 020 Deskset Information Screen

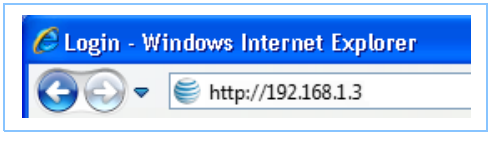


Figure 103. Browser Entry

1. Ensure your computer is connected to the same IP subnet as the Synapse system. You can connect your computer to the PC port on the back of a Deskset.
2. On the Deskset, press **MENU** then **4** to display the **Deskset Information** screen shown in Figure 101 or Figure 102.
3. Find the IP address on the **Deskset Information** screen.
4. Open a browser. AT&T recommends Internet Explorer 7 or higher for best performance. (If you are using a different browser, some of the pages presented here may look different and have different controls.) The PC must be on the same subnet as the Deskset, or your network administrator must have set it up so that devices on different subnets are able to communicate.
5. Type the Deskset **IP Address** in the address bar, as shown in Figure 103, and press **ENTER**. The browser displays the **Login** page as shown in *Figure 104 on page 92*.

NOTE You can also use a Gateway IP address (shown in *Figure 59 on page 69*) to log in to the WebUI.

To access the browser interface and log in: (Continued)

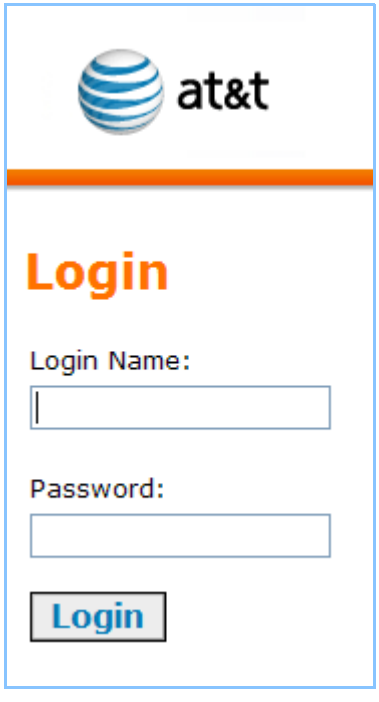


Figure 104. Login

6. Enter **admin** in the **Login Name** field and **12345** in the **Password** field, then click Login. You may change your Admin ID and password once you are logged in.

   Click topics from the navigation list on the left side of the WebUI to see them. You view and change settings in two different types of fields: drop-down lists and entry fields into which you type information. For your security, the WebUI times out after 10 minutes, so if it is idle for that time, you must log in again.

   The remaining procedures in this chapter assume that you are already logged in to the WebUI as administrator.

CAUTION

Only one person at a time should log in as the system administrator to prevent unintentional overwriting of changes.

Error Handling

If you type an invalid value into one of the WebUI fields and click Apply, the page is not saved. The WebUI displays an error message at the top of the page. The field with the incorrect value is highlighted in yellow, as shown in Figure 105. You can view a more detailed error description by resting your mouse pointer on the highlighted field.

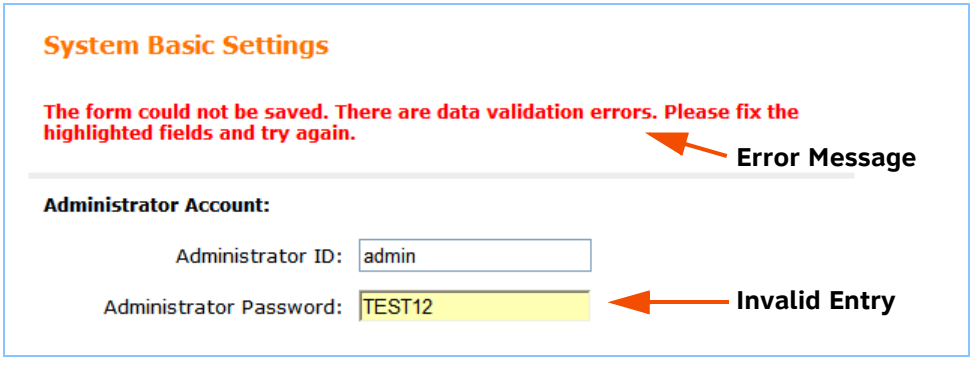


Figure 105. WebUI Error Indication

System Settings

CAUTION *When making changes to the System Settings through the WebUI, ensure that no one is using the system. You might need to make the changes after normal office hours.*

NOTE The WebUI settings available to you vary according to the system configuration.

- T1 and ATA settings and features are only available and visible in the WebUI when those devices are installed.
- Many settings available in Call Appearance mode are not available in Line Appearance mode.

For a complete list, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

Setting Line Appearance Mode

By default, the Synapse system starts up in Call Appearance mode. If you need to change the appearance mode, change it at the beginning of the installation—after you have installed one Deskset but before you have installed all the Desksets. If possible, setting the appearance mode should be a one-time procedure.

For a full list of system and Deskset settings that are affected by appearance mode changes, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

NOTE You cannot enable Line Appearance mode if a T1 Gateway is installed in your system. You must first disconnect the T1 Gateway, then delete it from the system using the WebUI **Device Management** menu.

To set Line Appearance mode:

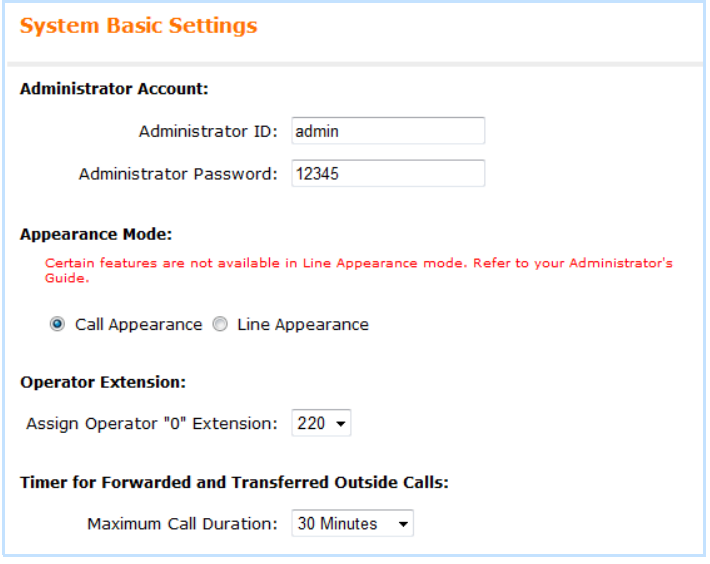

System Basic Settings
Administrator Account:
Administrator ID: admin
Administrator Password: 12345
Appearance Mode:
Certain features are not available in Line Appearance mode. Refer to your Administrator's Guide.
Call Appearance
Line Appearance
Operator Extension:
Assign Operator "0" Extension: 220
Timer for Forwarded and Transferred Outside Calls:
Maximum Call Duration: 30 Minutes

Figure 106. System Basic Settings

1. In the Navigation Menu at left, under **System Settings**, click **Basic Settings**. The page shown in Figure 107 appears.
2. Under Appearance Mode, select **Line Appearance**.
3. Click Apply.

After setting the system to Line Appearance mode, you should:

- Proceed to *"Trunk Naming" on page 106* and give PSTN lines names that will be meaningful to Deskset users. Trunk names appear on the SB67030/031 Deskset display.
- See the Synapse Administrator's Guide to configure:
  - Call Forward No Answer settings for PSTN lines and Desksets
  - PSTN line assignments for individual Desksets.

Dial Plan Settings

You can set up extension numbers for the Synapse system as either three- or four-digit extension numbers in the range of 100 to 999, or 1000 to 9999. You can also select the Prefix for the following:

- The **Default Phone Extension Prefix** determines the first digit to use for extension auto assignment.
- The **Park Extension Prefix** determines the first digit to use for parked calls **(Call Appearance mode only)**.
- The **PSTN Trunk Prefix** determines the digit to dial before dialing outside calls **(Call Appearance mode only)**.

Since two devices must be connected to the LAN before you can use the WebUI, you need to install a Deskset before setting the Dial Plan. In this case, modify that Deskset's settings using the WebUI **Extension Settings** menu after you set the Dial Plan.

To set the Dial Plan:

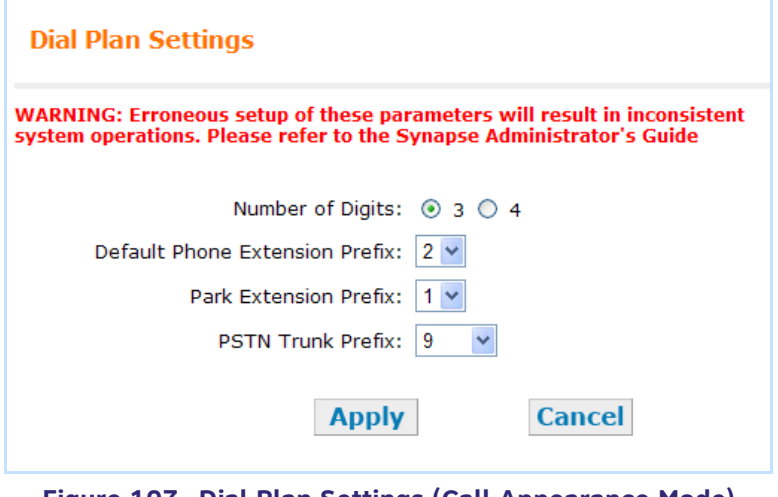

Dial Plan Settings
WARNING: Erroneous setup of these parameters will result in inconsistent system operations. Please refer to the Synapse Administrator's Guide
Number of Digits: 3 4
Default Phone Extension Prefix: 2
Park Extension Prefix: 1
PSTN Trunk Prefix: 9
Apply
Cancel

Figure 107. Dial Plan Settings (Call Appearance Mode)

1. In the Navigation Menu at left, click **System Settings**, then **Dial Plan Settings**. The page shown in Figure 107 appears.
2. Select the **Number of Digits** for all of your extension numbers.

NOTE

When changing an existing system from 3-digit to 4-digit extensions or from 4-digit to 3-digit extensions, the system automatically attempts to convert all existing extensions. This process takes up to two minutes, depending on how many extensions you have. All errors or extension number discrepancies are reported on the WebUI page. A table of all changed extension numbers appears when the process is complete.

To set the Dial Plan: (Continued)

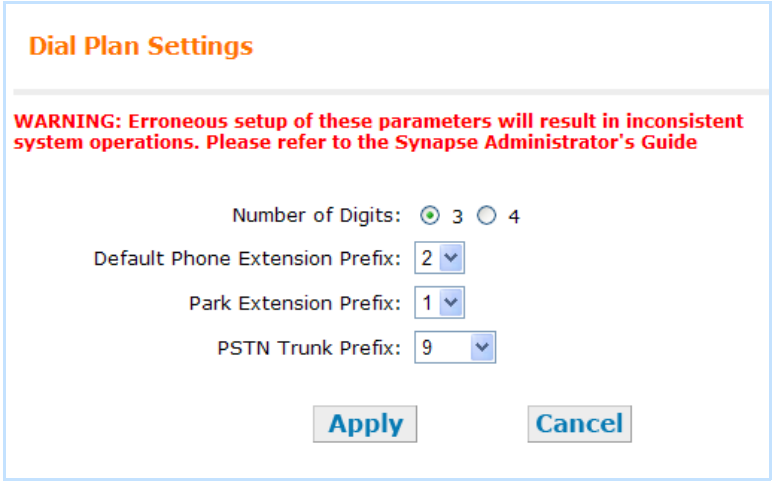

Dial Plan Settings
WARNING: Erroneous setup of these parameters will result in inconsistent system operations. Please refer to the Synapse Administrator's Guide
Number of Digits: 3 4
Default Phone Extension Prefix: 2
Park Extension Prefix: 1
PSTN Trunk Prefix: 9
Apply
Cancel

Figure 108. Dial Plan Settings

3. Select the **Default Phone Extension Prefix** to be the initial digit used for automatically assigned extension numbers. For example, if set to 3, and you have existing extensions 2000 and 2001, the next automatically assigned extension numbers will increment beginning with 3000. The **Default Phone Extension Prefix** should not match the **PSTN Trunk Prefix**.

   You can still manually assign an extension with a different prefix number using the **Extension Settings** menu.

   For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

CAUTION *If you assign an extension number whose first digit is the same as an Auto Attendant menu dial key, callers will be unable to dial that extension. Instead, they will be connected to that Auto Attendant menu action. For more information, see the Synapse Administrator's Guide.*

4. **Call Appearance mode only—**Select the **Park Extension Prefix** to be the initial digit used for parked calls, as shown in Figure 108. For example, if set to 8, the park extension range would be from 800 to 899. The **Park Extension Prefix** should not match the **PSTN Trunk Prefix**.

To set the Dial Plan: (Continued)

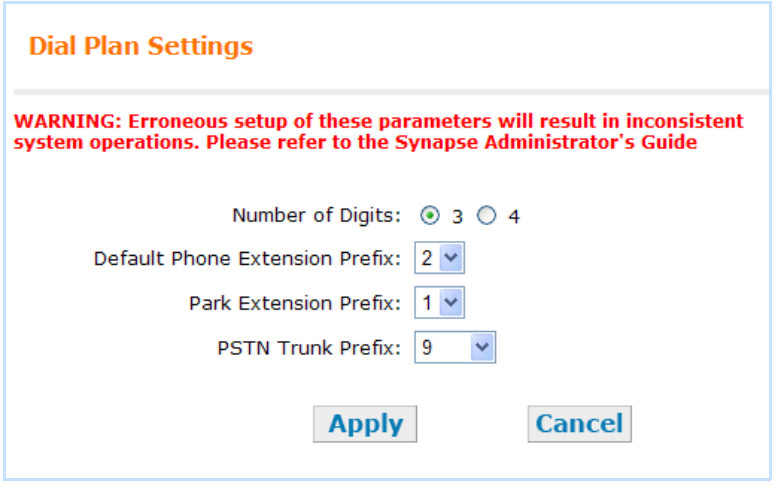

Dial Plan Settings
WARNING: Erroneous setup of these parameters will result in inconsistent system operations. Please refer to the Synapse Administrator's Guide
Number of Digits: 3 4
Default Phone Extension Prefix: 2
Park Extension Prefix: 1
PSTN Trunk Prefix: 9
Apply
Cancel

Figure 109. Dial Plan Settings

- If the **PSTN Trunk Prefix** is set to **none**, ensure that the **Park Extension Prefix** does not conflict with the first digit needed to dial long-distance calls. For example, if the **Park Extension Prefix** is 1, then a PSTN call beginning "1-60" is not completed because the system instead looks for a parked call at extension 160.

5. **Call Appearance mode only—**Select the **PSTN Trunk Prefix** to determine the digit to have users dial to access an outside line.

   - If you manually assign an extension that overlaps with the **PSTN Trunk Prefix**, then dialing an external call dials that extension instead.

     For example: If the **PSTN Trunk Prefix** = **8**, dialing 8-1-6 will ring extension 816.

     The **PSTN Trunk Prefix** should not match the **Default Phone or the Park Extension Prefix**.

   Results of setting **PSTN Trunk Prefix** to **none**:

   - A user can dial just by entering the outside phone number, such as 232-555-0176.
   - When auto-assigning extensions, the system skips all x11 numbers (such as 411, 611, and 911), as these are used for telephone network services.

To set the Dial Plan: (Continued)

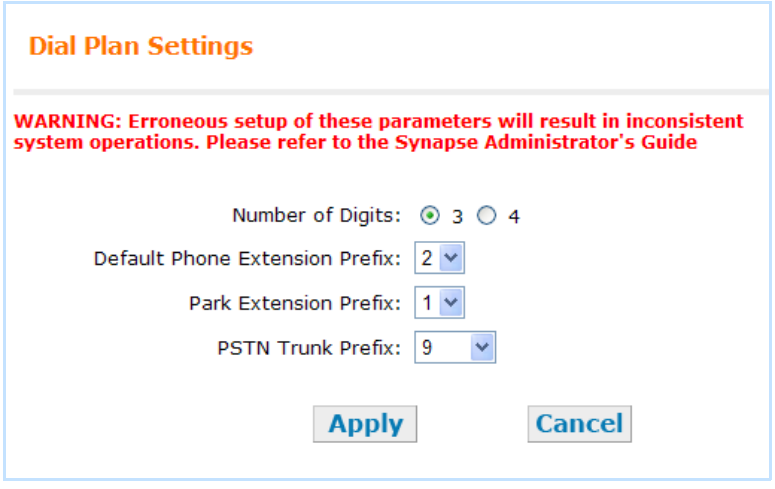

Dial Plan Settings
WARNING: Erroneous setup of these parameters will result in inconsistent system operations. Please refer to the Synapse Administrator's Guide
Number of Digits: 3 4
Default Phone Extension Prefix: 2
Park Extension Prefix: 1
PSTN Trunk Prefix: 9
Apply
Cancel

Figure 110. Dial Plan Settings

- If the first few digits of an area code (e.g., 232-555-0176) match an extension (e.g., Ext. 232), the extension is dialed. Ensure that commonly used area codes are not being used as extension numbers.
- If the **Park Extension Prefix** is the default **1**, no long-distance calls can be completed, because the system tries to find a parked call for that number.

CAUTION *Users will not be able to dial international calls that start with* **0** *(zero) because the calls will go to the system Operator.*

6. Click Apply to save these settings or click Cancel to refresh the page without saving the changes.
7. If you installed any Desksets before applying the Dial Plan settings in the WebUI, and if you changed the **Default Phone Extension Prefix**, individually change those Desksets' extension numbers.

For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

Direct Inward Dial (T1 Gateway)

NOTE These settings apply to Call Appearance mode only.

When the system is set to Call Appearance mode, use the **Direct Inward Dial** page to assign unique telephone numbers to specific Desksets. Callers can bypass the Call Queue, Auto Attendant, or Operator by using those telephone numbers. The T1 Gateway uses the Direct Inward Dial (DID) data from your Telephone Service Provider to automatically route incoming calls.

DID Configuration

To set up Direct Inward Dial numbers:

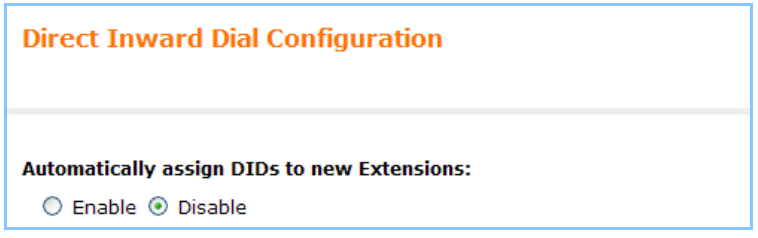


Figure 111. DID Configuration, Part 1

1. In the Navigation Menu at left, click **System Settings** and then **Direct Inward Dial**. The page shown in Figure 111 and *Figure 113 on page 102* appears.
2. Choose to **Enable** or **Disable** automatically assigning DIDs to new extensions. When enabled, newly added Desksets are automatically assigned the lowest available extension number and, if available, the corresponding DID number. If there are no available extension numbers with corresponding DID numbers, the new extension is created with no DID number.

To set up Direct Inward Dial numbers: (Continued)

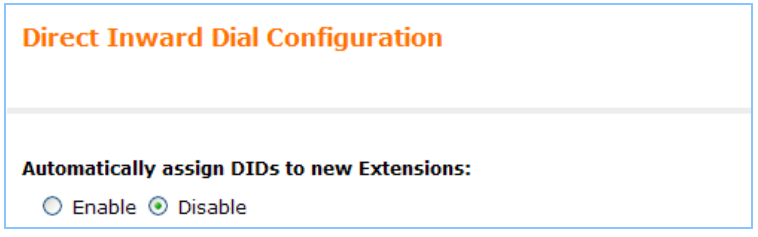


Figure 112. DID Configuration, Part 1

For example, if a new Deskset was connected under the following conditions, the new Deskset would be assigned extension 204 and no DID number.

Current Extensions: 201-203 taken, 204 and up available

Current DIDs: 232-555-5201 available
232-555-5202 available
232-555-5203 taken

You can also manually assign DID numbers. See *"DID Assignments" on page 104*.

If automatic assignment is enabled, FXS extensions on a connected ATA are also included unless the FXS port has been assigned to an Overhead Paging System (OHP).

NOTE DID numbers are not retroactively assigned to Desksets or ATAs already present in the system. If possible, set this feature up before physically installing all the Desksets.

To set up Direct Inward Dial numbers: (Continued)

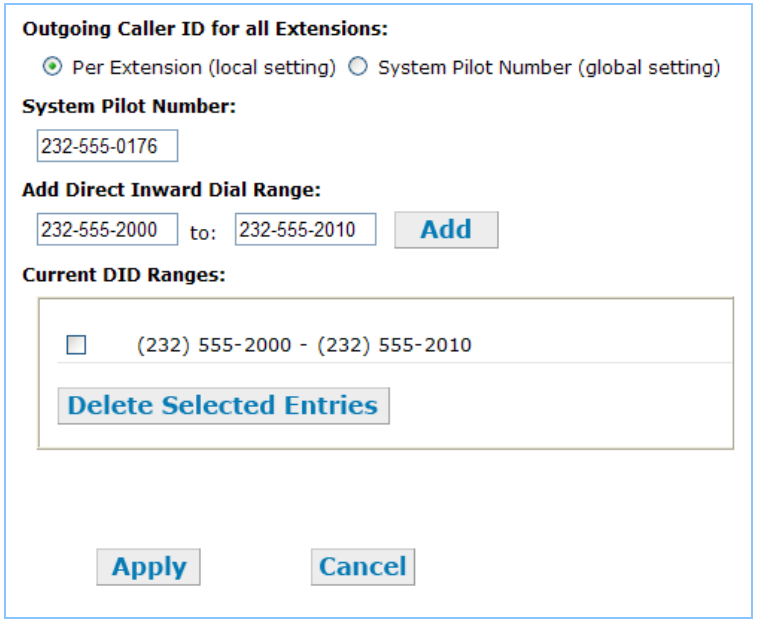


Figure 113. DID Configuration, Part 2

3. As shown in Figure 113, select the **Outgoing Caller ID for all Extensions**. The outgoing caller ID is the Synapse user's name and phone number that appears on the destination telephone if it is set up to receive and display the information.

   Select **Per Extension (local setting)** to have each extension send either the DID or System Pilot Number for the caller ID number. To set the phone number, see the **Extension Settings** menu.

   For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

   Select **System Pilot Number (global setting)** to have each extension send the System Pilot Number for the caller ID number.

4. Enter the **System Pilot Number**. The System Pilot Number is usually the company's main telephone number.

To set up Direct Inward Dial numbers: (Continued)

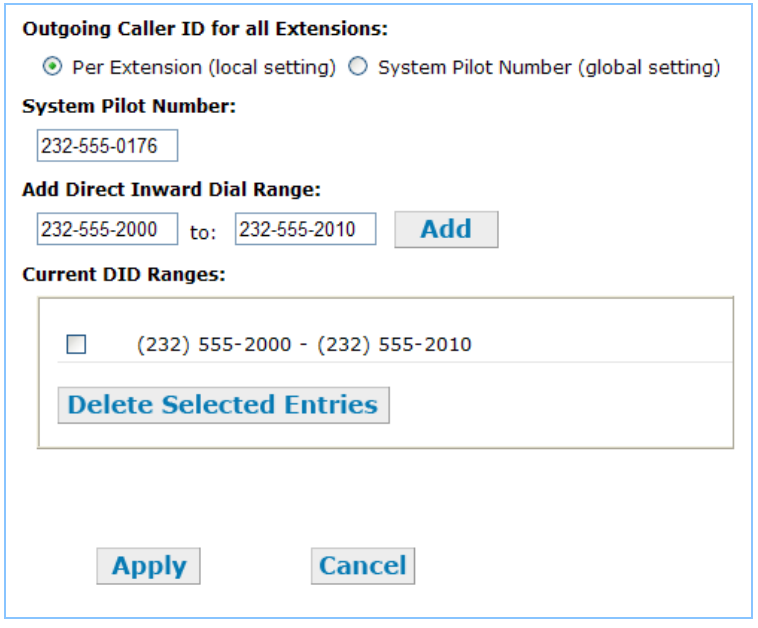


Figure 114. DID Configuration, Part 2

5. Enter the DID range into the boxes beneath **Add Direct Inward Dial Range**. Click Add to enter the phone number range into the **Current DID Ranges** list. These ranges describe the DID numbers that your service provider assigned to you. The system cannot check whether you have subscribed to these DID numbers, but it checks that all numbers are ten digits long, with no spaces or hyphens, and that there are no more than 200 DID numbers.

   To add only one DID number, enter it into both range fields.

   You can define up to 50 ranges.

CAUTION

If you assign Direct Inward Dial numbers with the first digit of any extension that overlaps an Auto Attendant menu numeric key value, callers will be unable to dial those extensions. Instead, they will be connected to that Auto Attendant menu action.

6. Optional: To delete unwanted DID number ranges, select the unwanted DID number range in the **Current DID Ranges** list and click Delete Selected Entries.

7. When you are done, click Apply to save these settings or click Cancel to refresh the page without saving the changes.

DID Assignments

NOTE These settings apply to Call Appearance mode only.

If you did not enable automatic assignment (see *"DID Configuration" on page 100)*, you must manually assign DID numbers. In addition to the manual assignment process described in this section, you can also manually assign DID numbers on the **Extension Basic Settings** page, and, if an optional ATA is present, on the **ATA Settings** page (see *"ATA Settings" on page 115*).

For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

The **Direct Inward Dial Assignments** page, shown in *Figure 113 on page 102*, displays all DID numbers and their assignments.

To manually assign Direct Inward Dial numbers:

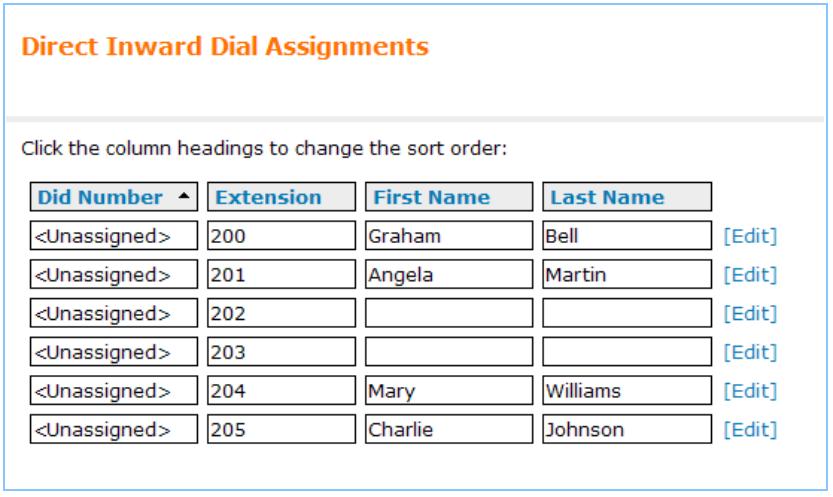


Figure 115. DID Assignments, Part 1

1. In the Navigation Menu at left, click **System Settings, Direct Inward Dial**, and then **DID Assignments**. The page shown in Figure 115 appears.
2. Sort the fields in the **Direct Inward Dial Assignments** table as desired. Clicking the buttons above each column changes which column the information is sorted by. Press the button again to change between ascending and descending order.
3. Click **Edit** to display the **Extension Basic Settings** page for that extension, as shown in *Figure 116 on page 105*.

To manually assign Direct Inward Dial numbers: (Continued)

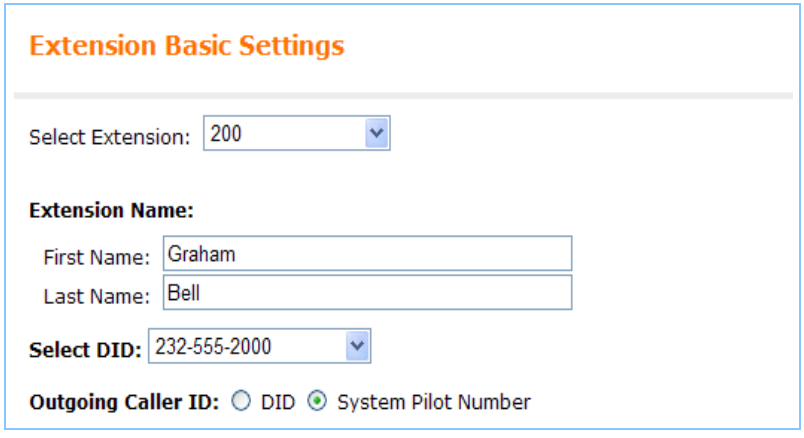


Figure 116. DID Assignment on Extension Basic Settings page

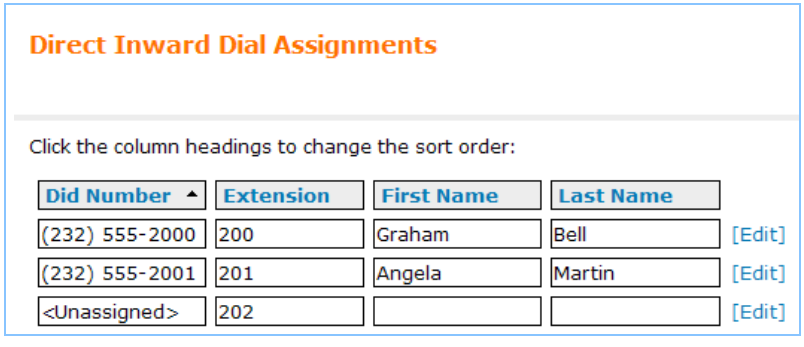


Figure 117. DID Assignments, Part 2

4. In the center of the page, use the **Select DID** drop-down list to select a DID Number. Only available DID Numbers appear in the list.

   Select **Unassigned** to release the DID Number and make it available.

   If you assign a DID Number to an extension that already has a DID Number assigned to it, the new number is assigned; the old DID Number is released.

5. When you are done, click Apply to save these settings or click Cancel to refresh the page without saving the changes.

6. To edit the DID numbers of other extensions, select another extension from the **Select Extension** drop-down list and repeat steps 5 and 6.

7. To return to the **Direct Inward Dial Assignments** page, as shown in Figure 117, press **System Settings**, then **Direct Inward Dial**, and then **DID Assignments**.

Trunk Naming

You can name the system trunks for easier identification. For PSTN Gateways, you can assign names to all lines—up to 16, depending how many PSTN Gateways are installed. For the T1 Gateway, there is only one physical trunk, so only that one trunk can be named regardless of how many slots the T1 trunk supports.

Renaming Gateway trunks is highly recommended in Line Appearance mode and when reserving trunks. See *"Trunk Reservation (Outgoing Calls)" on page 107*.

To name a trunk:

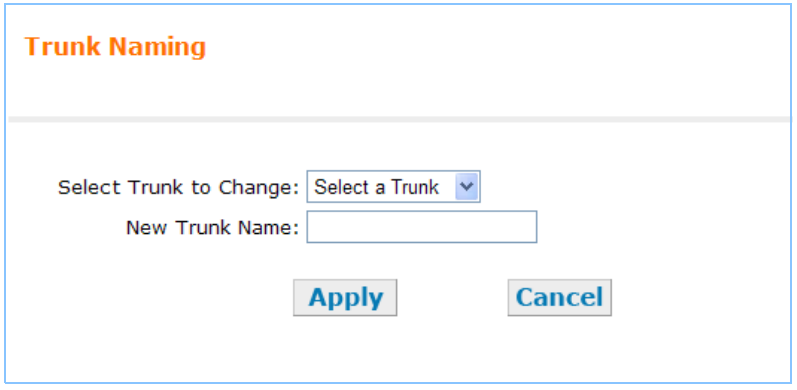


Figure 118. Trunk Naming

1. In the Navigation Menu at left, click **System Settings**, then **Trunk Naming**. The page shown in Figure 118 appears.
2. **Select a Trunk to Change** from the drop-down list. All trunks are listed.
3. Enter the **New Trunk Name** using up to 16 characters. In Line Appearance mode, trunk names appear on SB67030/031 Deskset screen. Because of space requirements on the screen and varying character widths, limiting trunk names to four to six characters is recommended.
4. Click Apply to save the entry or click Cancel to refresh the page without saving the changes.

Trunk Reservation (Outgoing Calls)

NOTE These settings apply to Call Appearance mode only.

You can reserve a PSTN telephone line or a T1 channel for an extension, so that only that extension can use that telephone line (or channel) for outgoing calls. Trunk reservations apply only to outgoing calls. A user with a reserved trunk will not be able to make outgoing calls if all lines and channels are busy with incoming calls. If necessary, 911 calls use trunks that are reserved for other extensions.

NOTE Trunk reservation limits the number of total outgoing calls possible by other, non-reserved, extensions or call appearances. Ensure that the trunk reservations you configure do not negatively affect the line availability of the rest of your Synapse System.

To reserve a trunk:

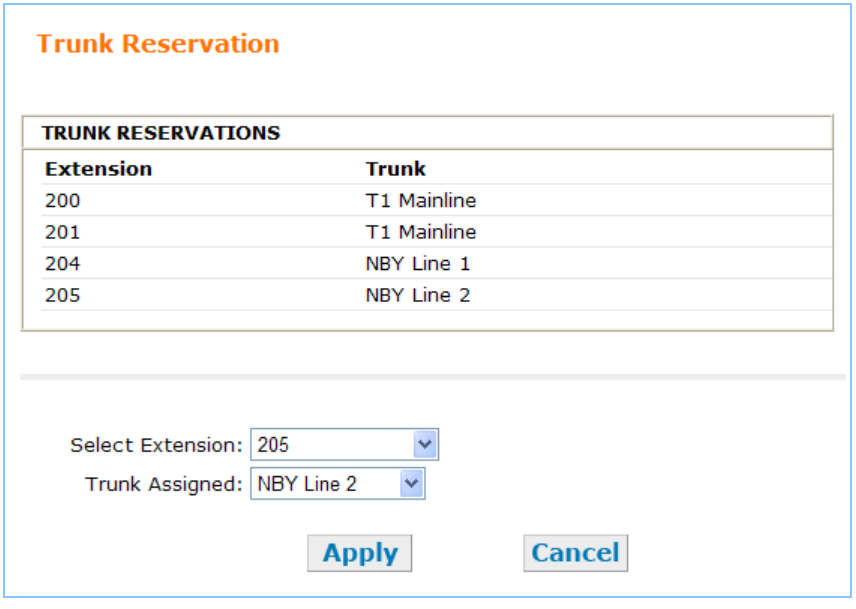


Figure 119. Trunk Reservation

NOTE To route an incoming call directly to an extension, see *"Direct Inward Dial (T1 Gateway)" on page 100* (for a T1 Gateway) or *"PSTN Gateway Trunk Routing (Incoming Calls)" on page 109* (for a PSTN Gateway).

1. In the Navigation Menu at left, click **System Settings**, then **Trunk Reservation**. The current Trunk Reservation list appears, as shown in Figure 119.
2. Select an **Extension** from the first drop-down list. All extensions are listed, including FXS ports on the optional ATA that have been assigned to a telephone or Fax. Only one telephone line/channel can be reserved for each extension.
3. Select an available trunk from the **Trunk Assigned** drop-down list. Trunks that are reserved for other extensions do not appear in the list. The T1 Gateway appears as one trunk in the list. Selecting **T1** reserves one T1 channel for the extension. You can select **T1** for as many extensions as there are channels. Your service provider determines the number of available T1 channels. See *"T1 Settings" on page 110*.
4. Click Apply to save the entry or click Cancel to return to the previous page without saving the changes.

PSTN Gateway Trunk Routing (Incoming Calls)

NOTE These settings apply to Call Appearance mode only.

With a PSTN Gateway, all incoming calls to a specific telephone number can go directly to a specific destination. Calls to that phone number can be routed to an extension, Group Mailbox, or Ring Group. The **Trunk Routing** WebUI page only appears if there is a PSTN Gateway connected to the system. You can route calls on the T1 Gateway through Direct Inward Dialing. See *"DID Assignments" on page 104*. If both a PSTN Gateway and a T1 Gateway are connected, then both options are available. Any destination can have more than one trunk routed to it.

To route calls to a trunk:

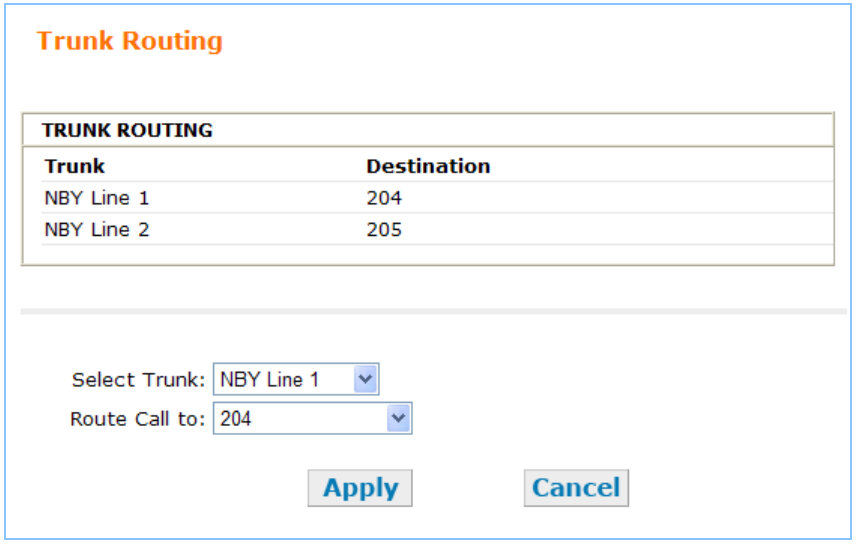


Figure 120. Trunk Reservation

1. In the Navigation Menu at left, click **System Settings**, then **Trunk Routing**. The current Trunk Routing list appears, as shown in Figure 120.
2. Select an available **Trunk** from the first drop-down list.
3. Select a destination to **Route Call** to from the second drop-down list.
4. Click Apply to save the entry or click Cancel to return to the previous page without saving the changes.

T1 Settings

NOTE These settings apply to Call Appearance mode only.

You can modify the settings of your T1 connection. AT&T expects that most installations will use the default settings. Changing T1 settings resets the T1 Gateway and interrupts telephone service. To avoid disrupting service, AT&T recommends changing T1 settings outside of business hours.

To configure the T1 settings:

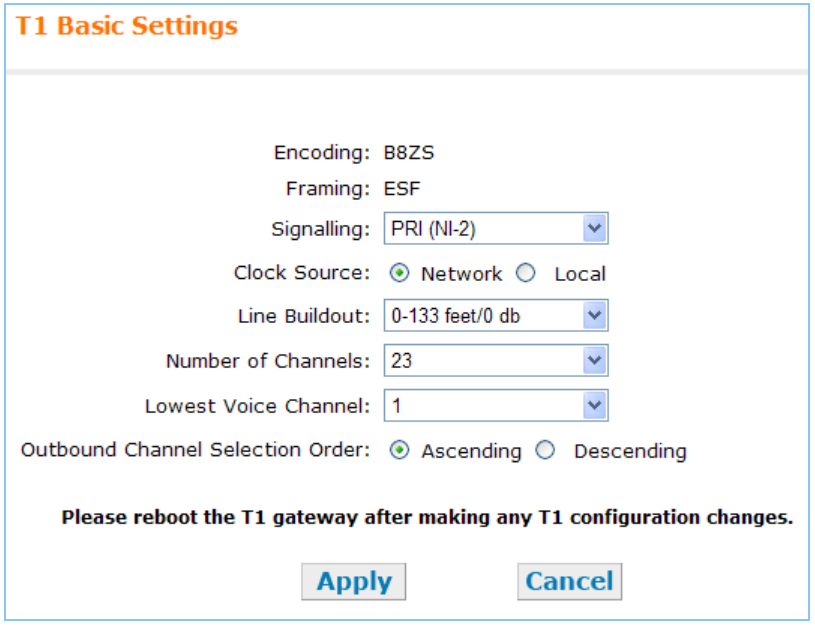


Figure 121. T1 Settings

1. In the Navigation Menu at left, click **System Settings**, then **T1 Settings**. The page shown in Figure 121 appears.

   The system assumes that your T1 circuit uses **B8ZS** (Bipolar with 8 Zeros Substitution) **Encoding**.

   The system assumes that your T1 circuit uses **ESF** (Extended Super Frame), used in conjunction with B8ZS, for signaling and to control line **Framing**.

2. Select the **Signaling** protocol from the drop-down list. Signaling information is sent with the data to convey certain connection parameters. The default is Primary Rate Interface (PRI NI-2), which is the modern standard for carrying voice transmissions.

   The other choices are Nortel Digital Multiplex Switch 100 (DMS-100), and Class 5 Electronic Switching System (5ESS). With these two protocols, only the caller ID number, not the caller ID name, is provided to the Desksets.

To configure the T1 settings: (Continued)

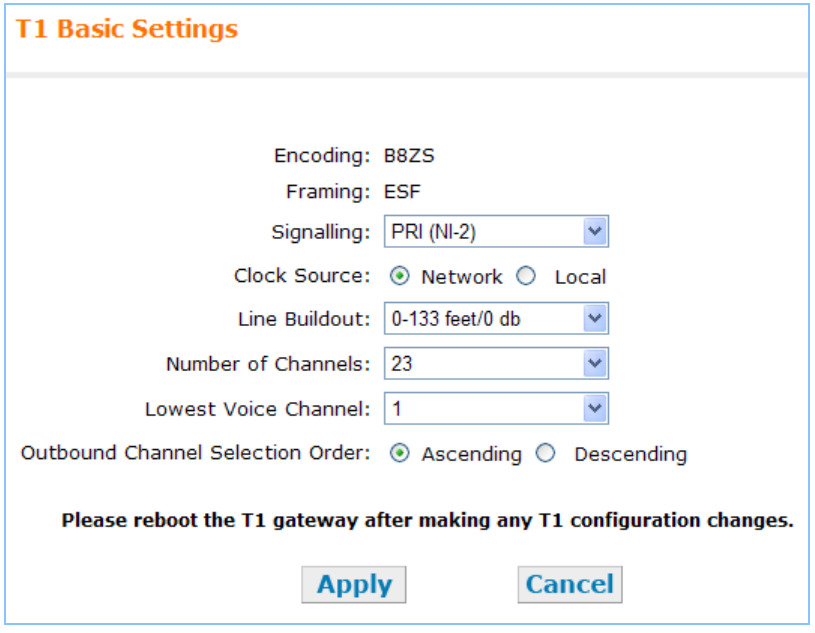


Figure 122. T1 Settings

3. Select the **Clock Source** for Gateway synchronization:
   - **Network**. The telephone network maintains an extremely accurate timing source.
   - **Local**. A clock source that is internally generated in the CSU (Channel Service Unit).
4. Select the **Line Buildout** value from the drop-down list. The value and its units are determined by whether the CSU is on your premises or not. The default value is **0-133 feet/ 0 db**.

   For short haul installations, where a CSU is at your location, the T1 Gateway supports Line Equalization based on the distance between the T1 Gateway and the CSU in feet. Estimate the cable length and select accordingly.

   For long haul installations, where the T1 Gateway connects directly to a Network Interface Device, the T1 Gateway supports Line Attenuation. Estimate the line loss and set the **Line Buildout** value accordingly.

To configure the T1 settings: (Continued)

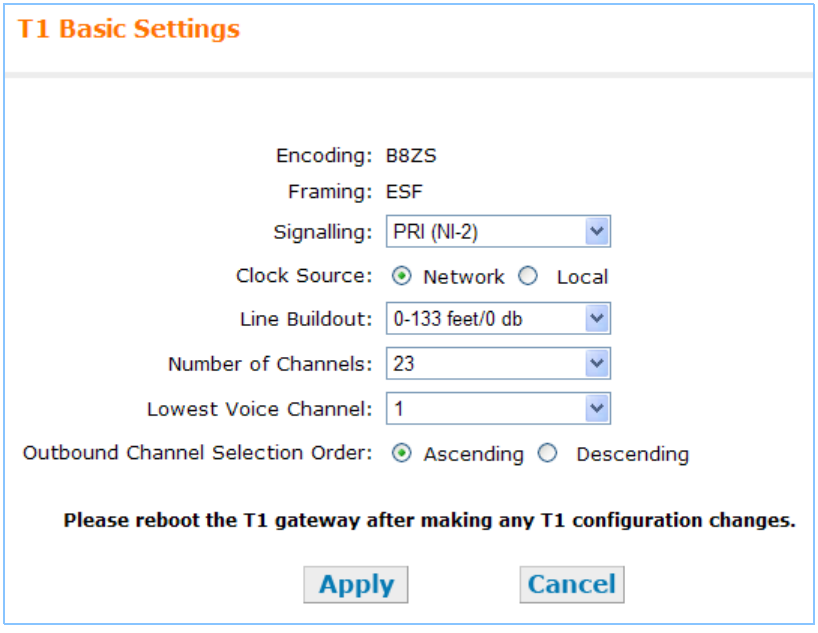


Figure 123. T1 Settings

5. Select the **Number of Channels**. You can set the number of voice channels available on the T1 trunk according to the current service subscription. Channel 24 is reserved for PRI signaling.
6. Select the **Lowest Voice Channel** in cases where some channels are reserved for data transfer or if there are limited slots available.
7. Select the **Outbound Channel Selection Order**, either **Ascending** or **Descending**.

To configure the T1 settings: (Continued)

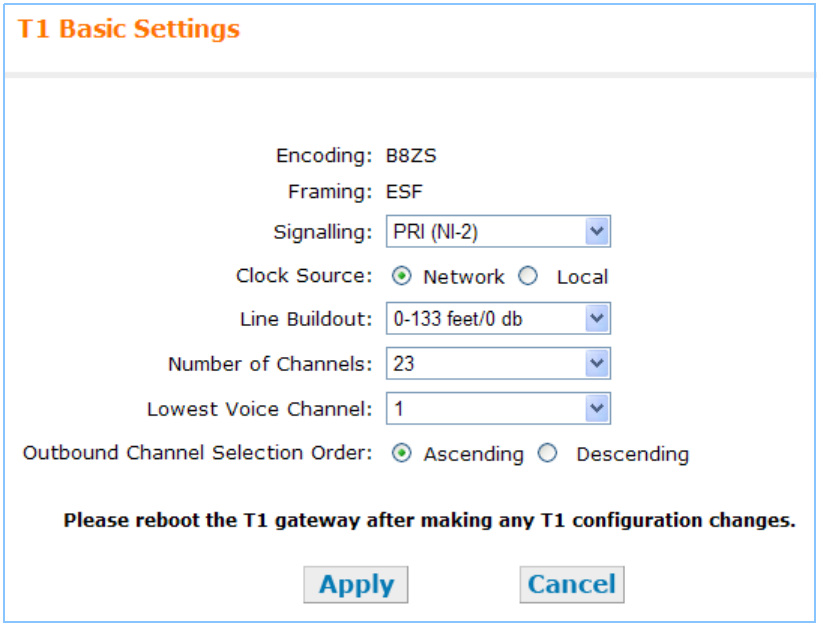


Figure 124. T1 Settings

8. Click **Apply** to save any changes or click **Cancel** to return to the previous page without saving the changes.

NOTE When you click **Apply**, the T1 Gateway resets itself. If there are Active Calls on the system, the system waits until the last call ends and the system is Idle. No new incoming or outgoing calls can be made until the reset is complete. During the reset, all LEDs on the T1 Gateway front panel turn off for approximately five to ten seconds. **All Phone Lines Busy** appears on all Desksets attempting to make a call.

9. Restart the T1 Gateway. Restarting the T1 Gateway hangs up any active calls that are using the T1 Gateway.

   - Press **RESET** on the T1 Gateway front panel for less than 5 seconds.

     OR

   - Disconnect and reconnect T1 Gateway AC power.

T1 Diagnostics

NOTE These settings apply to Call Appearance mode only.

You can check the status of the T1 Gateway and select a loopback mode. Setting the loopback mode terminates any phone calls that are using the T1 Gateway.

To view the T1 Status:

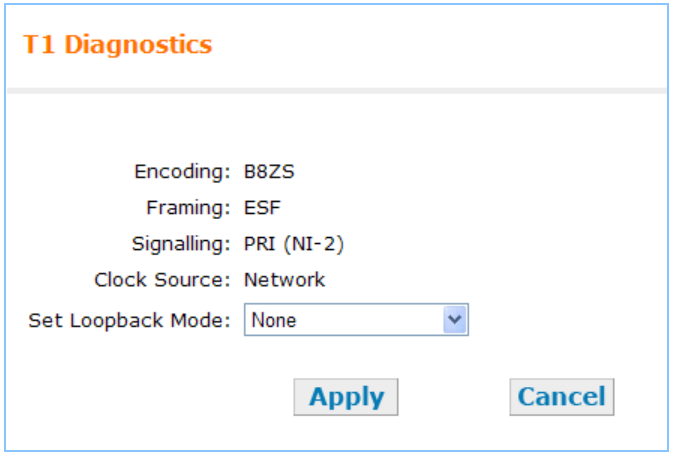


Figure 125. T1 Diagnostics

1. In the Navigation Menu at left, click **System Settings**, then **T1 Diagnostics**. The page shown in Figure 125 appears.

   The current T1 configuration is shown.

2. Optional: Put the T1 in loopback test mode by selecting from the **Set Loopback Mode** drop-down list, then clicking Apply. Note that the Alarm State color changes accordingly.

   Selecting **Network** loopback allows the service provider to test the T1 circuit.

   Selecting **Payload** loopback allows the service provider to test both the circuit and the T1 Gateway's ability to encode and decode the T1 data.

   Once loopback testing is completed, select **None**, then click Apply to cancel any loopback test mode.

NOTE Be sure to cancel loopback testing so that telephone calls can again occur.

ATA Settings

Use the WebUI to configure the two FXS ports on the ATA. Once an ATA is connected to the Synapse network, the WebUI is updated to show all ATA-related menus and configuration items within menus. (The ATA must be running a compatible software version.) If the ATA is deleted (using the WebUI's **Modify Device** page), all these ATA-related menus and configuration items disappear. However, the device list continues to show a count of ATAs.

Using the Private Line Automatic Ringdown (PLAR) feature, you can create a private intercom line or a door phone. When you enable the PLAR feature through the WebUI, an analog device (for example, an analog telephone or door phone) connected to an ATA FXS port will ring a destination when it goes off hook. The destination can be an Synapse Deskset extension or, if using Call Appearance mode, a ring group. You can configure this destination on the **ATA Settings** page of the WebUI.

During a call on the PLAR line, a user can press Deskset dial-pad keys to transmit DTMF tones (touch tones) to the analog device. The DTMF tones can control a door relay or other function. This feature depends on your analog device; you cannot program an entry code through the ATA.

ATA FXS Ports

Use the **ATA Settings** page to configure the two ATA FXS ports.

To configure the two ATA FXS ports:

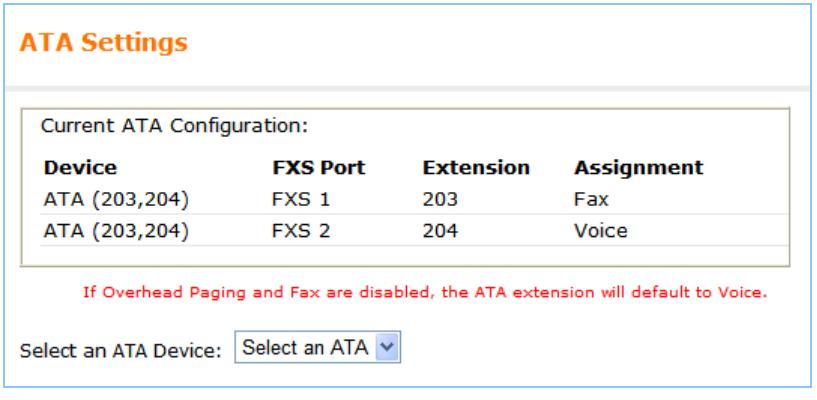


Figure 126. ATA Settings, Part 1

1. In the Navigation Menu at left, click **ATA Settings**. The page shown in Figure 126 appears.
2. Select an ATA device from the drop-down list.

   The rest of the **ATA Settings** page appears, as shown in *Figure 127 on page 117*.

To configure the two ATA FXS ports: (Continued)

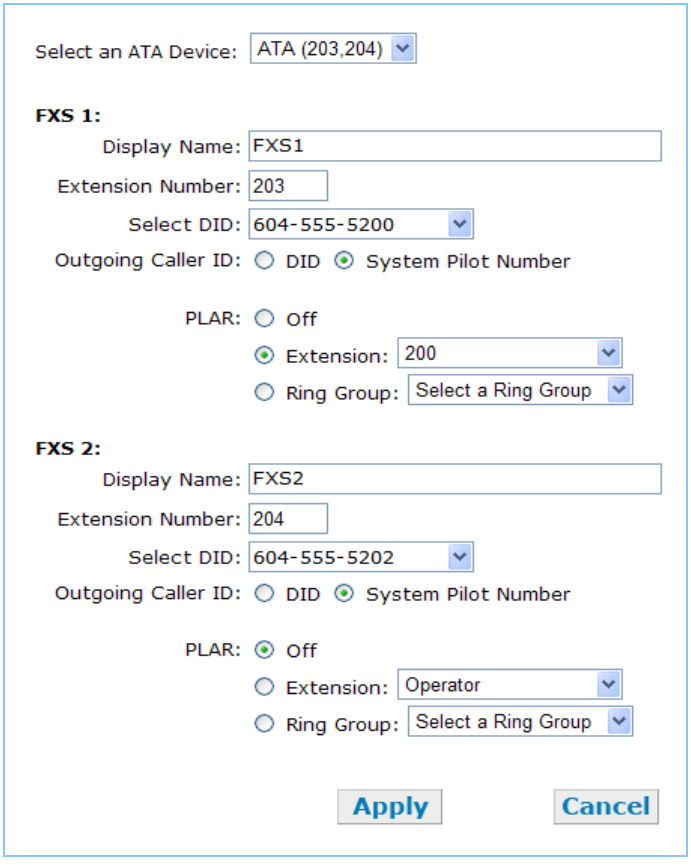


Figure 127. ATA Settings (Call Appearance mode shown)

3. For each FXS port shown in Figure 127:
   - Enter the **Display Name**.

     The **Display Name** is used as part of the caller ID when an analog phone connected to the FXS port is used for internal calls.
   - Enter an **Extension Number**. Ensure that this is the same extension as selected in Fax Destination. See *"Fax Configuration" on page 119*.
   - [T1] Assign a Direct Inward Dialing number for this extension using the **Select DID** drop-down list. Select **<Unassigned>** to release a previously assigned DID number.
   - [T1] Select whether the **Outgoing Caller ID** will be the **DID** number or the **System Pilot Number**.
   - To enable PLAR, select an **Extension** or a **Ring Group** to ring when an analog device connected to the FXS port goes off hook. Ensure the FXS port is not assigned to fax or overhead paging.
4. Click Apply to save these settings or click Cancel to return to the previous page without saving the changes.

Fax Overview

This section describes how to configure the optional AT&T SB67050 ATA device for fax reception and transmission.

Call Appearance mode only—If you have a dedicated fax line and low fax volume, the optional ATA offers fax switching so that you can use the fax line for both voice calls and faxes. If your fax does not have a DID number, when configured, the system detects incoming fax tones and routes those calls through the configured ATA FXS port to the fax machine. If you are already using fax switching equipment, the ATA can replace that equipment.

[**T1**] If the fax machine has a DID number, incoming faxes will come directly to the fax machine. Incoming voice calls should not share that channel since the fax machine will answer incoming calls.

NOTE **Line Appearance mode only—**Do not assign the PSTN fax line to any Programmable Feature Keys on Desksets. For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

Considerations for Using the Fax Line for Voice Calls

NOTE This section applies to Call Appearance mode only.

If your business uses a fax line for incoming voice calls, unless the fax telephone number has DID, each incoming call on that line is automatically checked by the system for a fax signal. This fax detection mode results in a delay of up to eight seconds before connecting an incoming voice call to the Auto Attendant or Operator. In addition, during the delay, the ringback tone generated by the CO (Central Office) is no longer heard by the caller. Instead, the caller hears the ringback tone generated by the Gateway.

[**T1**] When fax machines have DID numbers, there is no eight-second delay.

Using the fax line for outgoing calls is not restricted, but the caller ID of the fax number, not the primary business telephone number, will be sent as caller ID. This may result in some confusion if the recipient returns a missed call via their caller ID Log as they will then experience the eight-second delay mentioned above. Callers who return calls to DID telephone numbers will be calling your fax machine.

If your fax machine has an integrated telephone, you cannot use that telephone for incoming or outgoing phone calls.

You cannot start a call in voice mode then change to fax mode.

NOTE Before dialing a fax number, you must dial a 9 or whatever digit, if any, that must be dialed first for an outside call.

Fax Configuration

A fax machine can be connected to one of the FXS ports on the ATA, as shown in Figure 128. Incoming fax transmissions are routed from a telephone connection on the Gateway over your LAN and through the ATA to your fax machine. Similarly, faxes travel from your fax machine through the ATA and over the LAN to the Gateway for transmission to the far-end fax machine.

You must select a PSTN Gateway line or a DID number as your fax line. This is done in **Fax Configuration** in the WebUI.

The ATA supports two modes for fax transmission: G.711 and T.38.

- G.711 is a pass-through method that is the older, simpler fax protocol. G.711 mode provides the best compatibility with most fax machines and therefore is the default mode.
- T.38 is the standard protocol for faxing over IP networks and is more resistant to network impairments. However, users will not hear Call Progress Tones (CPT) such as ringback and busy signals. Fax machine compatibility issues are common. T.38 is not available if the fax telephone number is through the T1 Gateway.

The best mode for your installation depends on both your fax machine and your telephone line. In case of any fax issues, see *"SB67050 Analog Terminal Adapter" on page 179* for more details.

Use the WebUI to specify the Gateway and line being used as the fax line.

Figure 128. Fax Machine Connected to FXS Port

Fax Settings

To configure the fax settings:

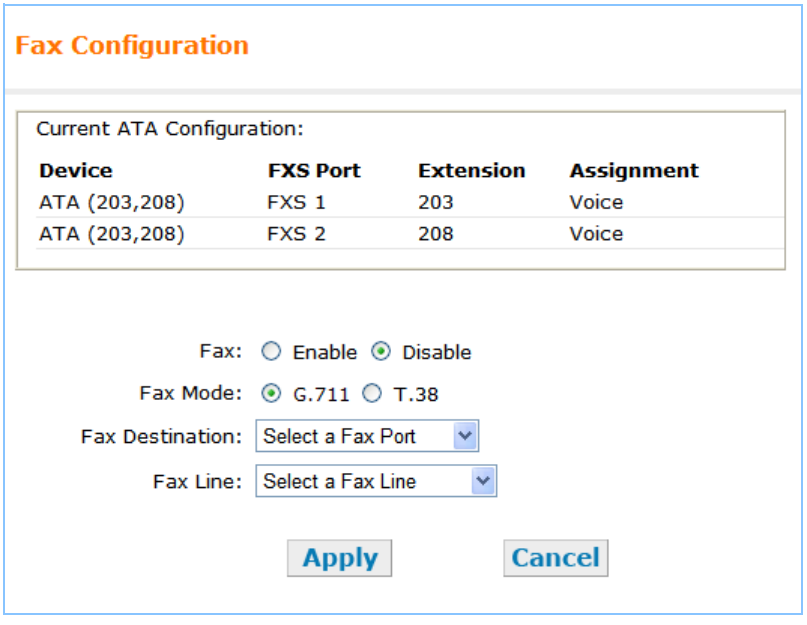


Figure 129. Fax Configuration

NOTE T1 channels cannot be set as fax lines unless they have DID numbers.

1. In the Navigation Menu at left, click **Fax Configuration**. The page shown in Figure 129 appears.

   The current ATA FXS Port settings are shown.
2. **Enable** or **Disable** the fax. When disabled, the incoming fax calls are directed like any other incoming calls, but faxes cannot be received.
3. [**PSTN**] Select the **Fax Mode**: **G.711** or **T.38**.

   The Fax default setting is G.711. If the fax fails to work in G.711 mode, change it to T.38.
4. Select the **Fax Destination** from the drop-down list. This is the ATA FXS port to which the fax machine is connected.
5. Select the **Fax Line** from the drop-down list. This is the DID number or one of the PSTN Gateway telephone lines to be used for fax communications.
6. Click Apply to save these settings or click Cancel to return to the previous page without saving the changes.

Setting Up Overhead Paging

To set up external overhead paging:

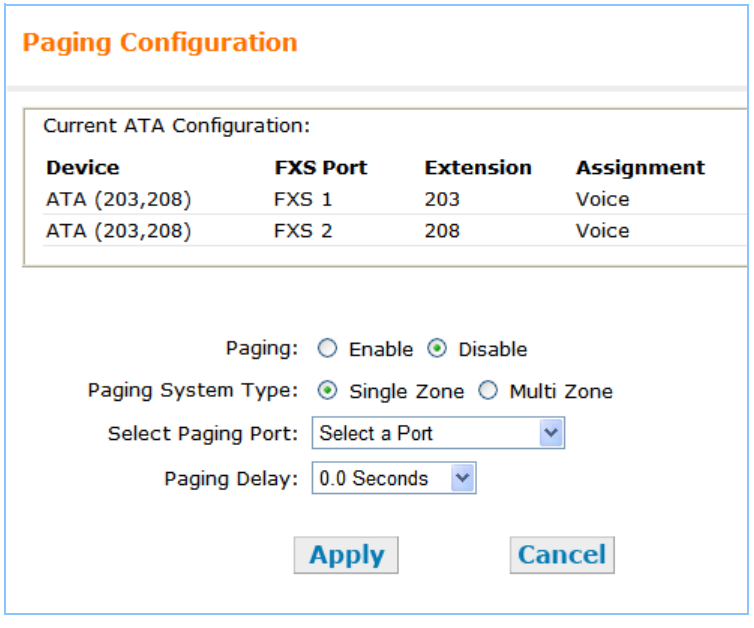


Figure 130. Paging Configuration

1. In the Navigation Menu at left, click **Overhead Paging**. The page shown in Figure 130 appears.

   The current ATA FXS port settings are shown.

2. **Enable** or **Disable** the overhead **Paging**.

3. Select the **Paging System Type**.

4. Select the **Paging Port**. This is the FXS port or AUX OUT jack into which the OHP is connected

5. Select the **Paging Delay**.

   If you have a single-zone system connected to an FXS port, select an appropriate delay. See *"Single-Zone Overhead Paging Delay" on page 124*.

   If not, this setting is ignored.

6. Click Apply to save these settings or click Cancel to return to the previous page without saving the changes.

Single-Zone Overhead Paging

A single-zone overhead paging system issues a one-way broadcast to all overhead speakers. These speakers cannot be grouped into separate zones. A single OHP can be connected to either the AUX OUT jack or an FXS port. Single-zone OHP is automatically included when you page all extensions.

To create a single overhead paging zone:

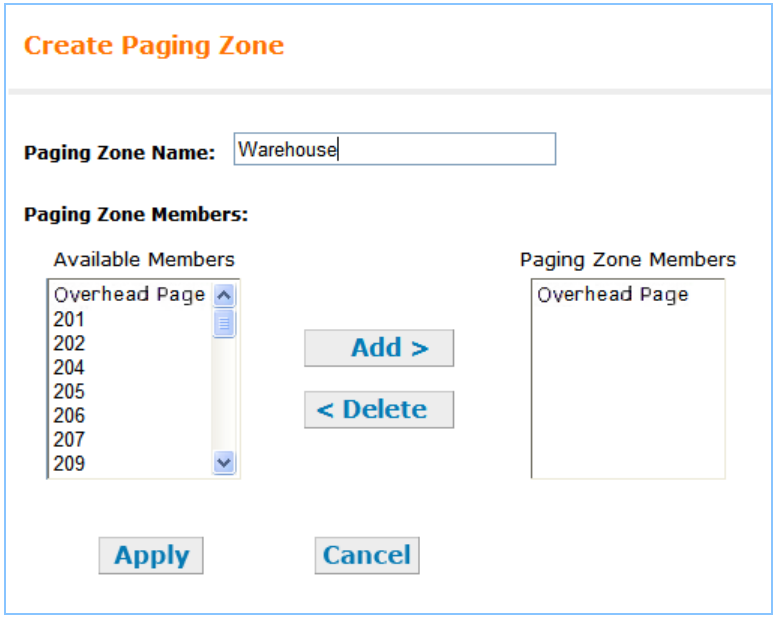


Figure 131. Create Paging Zone

1. Follow the instructions in *"Paging Zones" on page 126* to either **Create New Paging Zone**, or **View/Edit** an existing Page Zone.
2. Select **Overhead Page** from the **Available Members** list and click Add >.
3. Click Apply to save these settings or click Cancel to return to the previous page without saving the changes.

Single-Zone Overhead Paging Delay

When attached to an FXS port, single-zone overhead paging may require the Page tone to be delayed. If this delay is too short, the beginning of the Page heard through the OHP speakers may be cut off. You or the system installer need to experiment to find the correct delay for the system. Set the delay in the WebUI. See *"Overhead Paging Overview" on page 22*.

The delay starts after the user presses Start on the Deskset, as shown in Figure 132. Once the delay ends, the page tone sounds and the **Page** screen appears, as shown in Figure 133.

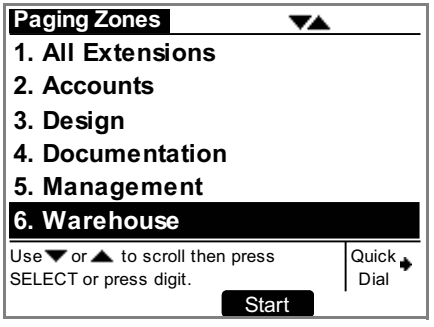


Figure 132. Paging Zones Including Single Overhead Zone

NOTE

When OHP is enabled, the delay is used even if a single **Overhead Paging** zone is not included in the page (i.e. even if there are only Desksets in the paging zone).

On the Deskset, the **All Extensions** option in the Paging Zones selection screen includes the single **Overhead Paging** zone automatically.

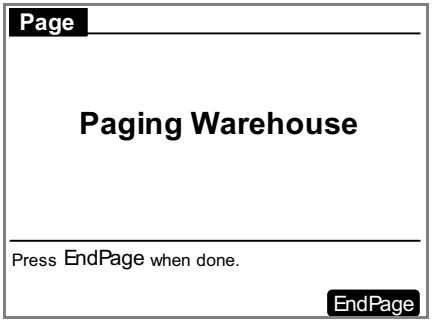


Figure 133. Page to a Single Overhead Zone

Multi-Zone Overhead Paging

Unlike single-zone Paging, multi-zone Paging requires user input. In a multi-zone system, overhead speakers are grouped into zones. Each zone is assigned a number. The user pages the zone by starting a page and then entering the zone number (the exact method may vary depending on the third-party OHP system being used). Refer to your OHP system's product documentation for installation and configuration instructions.

Because the multi-zone OHP requires the OHP to signal the user to begin speaking, it must be connected to an FXS port and will not work if connected to the AUX OUT jack.

Unlike single-zone Paging, multi-zone Paging systems cannot be included in the Synapse paging zones described in *"Paging Zones" on page 126*.

A multi-zone Page will, however, automatically appear at the bottom of the list of paging zones on the Deskset **Paging Zones** screen, as shown in Figure 134.

When users select overhead paging, the **Overhead Page** screen shown in Figure 135 appears.

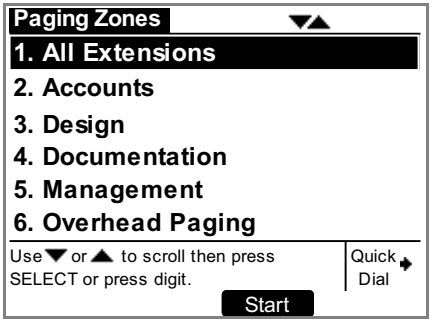


Figure 134. Paging Zones Including Overhead Paging

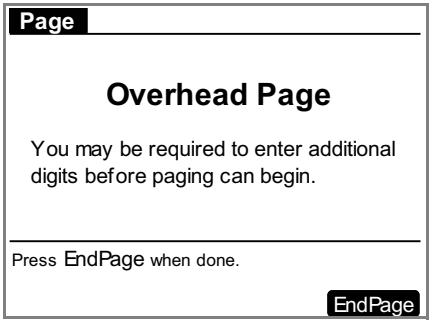

Page
Overhead Page
You may be required to enter additional digits before paging can begin.
Press EndPage when done.
EndPage

Figure 135. Overhead Page

NOTE Note that the third-party Paging System uses its own tones, so there is no local Deskset paging tone accompanying this screen.

Paging Zones

Use paging zones to set up extensions that can be paged as a group. For example, all extensions in the sales department could be defined as a paging zone. Any Deskset user can initiate a page to all extensions or only to the members of a paging zone. You can configure up to six paging zones, each with one or more members. You can place every extension in a paging zone.

To create a paging zone:

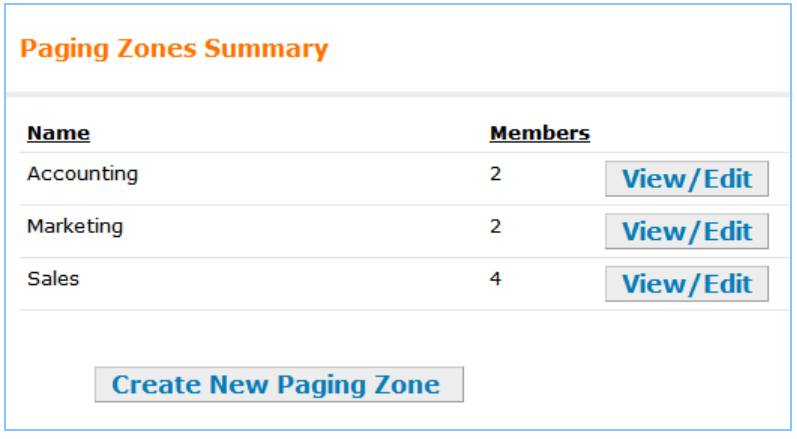


Figure 136. Paging Zones Summary

1. In the Navigation Menu at left, click **System Settings**, then **Paging Zones**. The page shown in Figure 136 appears.
2. Click Create New Paging Zone to create a new paging zone. The **Create Paging Zone** page appears, as shown in *Figure 137 on page 127*.

   OR

   To view or edit a paging zone, click View/Edit. The **Edit Paging Zone** page appears, as shown in *Figure 138 on page 128*.

To create a paging zone: (Continued)

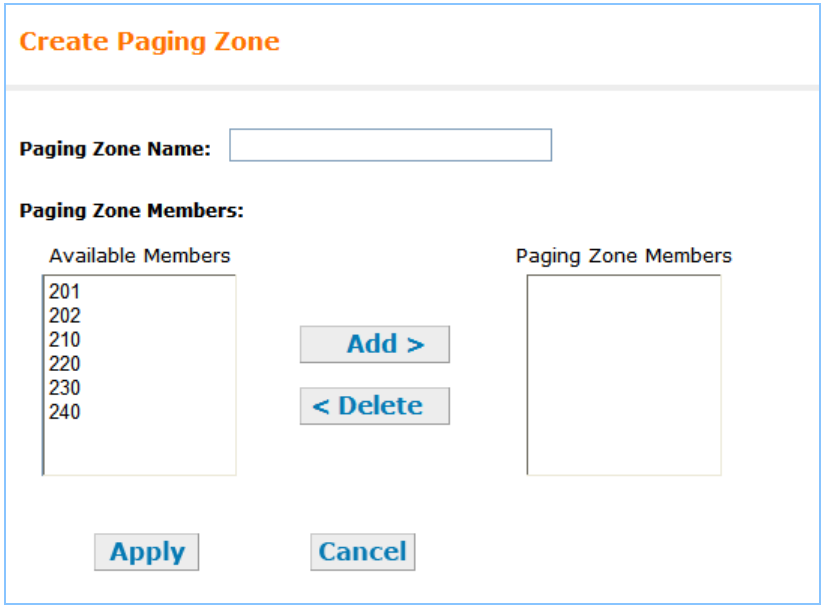


Figure 137. Create Paging Zone

3. Enter an appropriate name for the new paging zone, as shown in Figure 137.
4. Select one or more extensions that you want in this paging zone from the **Available Members** list and click Add >.

   OR

   Select one or more extensions to remove from this paging zone from the **Paging Zone Members** list and click < Delete.
5. Click Apply to save these settings when you are done or click Cancel to return to the previous page without saving the changes.

   The new paging zone appears on each Deskset when the Page soft key is pressed.

NOTE Single-zone overhead paging speakers can be included in a paging zone. Select **Overhead Page** from the **Available Members** list and click Add >. Multi-zone overhead paging speakers cannot be included in a paging zone.

To edit or delete a paging zone:

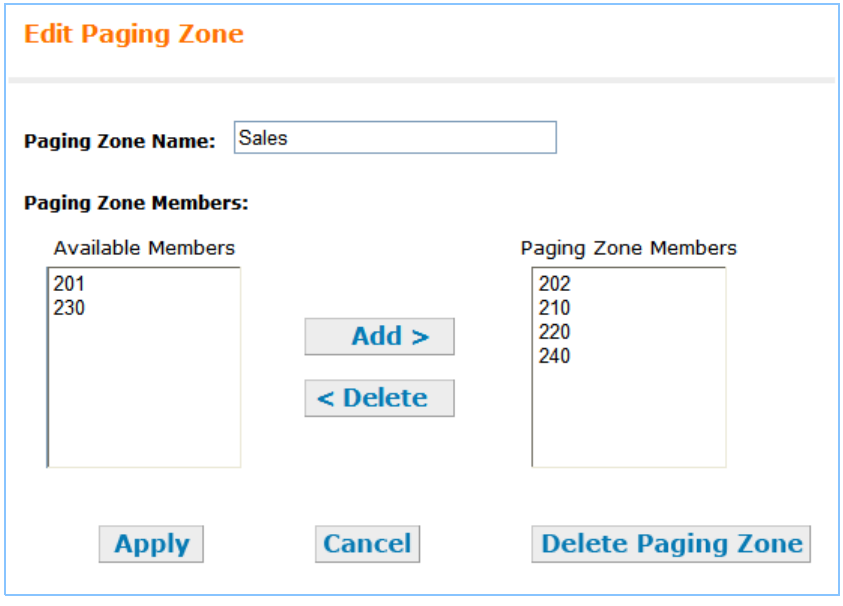


Figure 138. Edit Paging Zone

1. On the **Paging Zones Summary** page, click the View/Edit button for the paging zone you want to edit. The **Edit Paging Zone** page appears, as shown in Figure 138.
2. Select one or more extensions that you want in this paging zone from the **Available Members** list and click Add >.

   OR

   Select one or more extensions to remove from this paging zone from the **Paging Zone Members** list and click < Delete.

   OR

   Click Delete Paging Zone to delete this paging zone.
3. Click Apply to save these settings or click Cancel to return to the previous page without saving the changes.

Configuring a Trunk Port (FXO) Door Phone

You can configure a Trunk Port (FXO) door phone as described in *"Trunk Port (FXO) Door Phone Support" on page 28* using several different WebUI pages. The procedure varies depending on whether the system is in Call Appearance mode or Line Appearance mode. The outcome of the procedure ensures that door phone calls are routed to the correct destination, and that the door phone's connection to a PSTN Gateway line does not affect regular inbound and outbound call activity.

To configure a trunk port (FXO) door phone (Call Appearance mode):

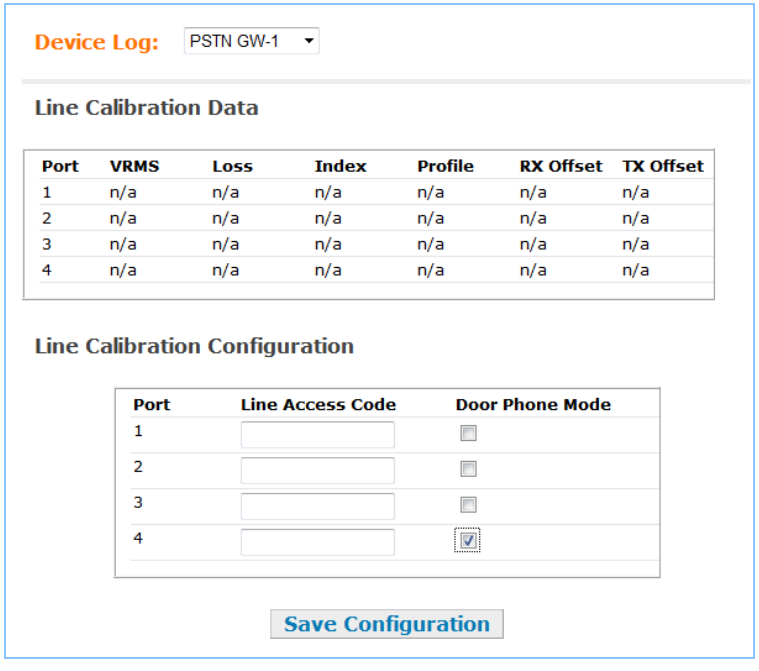

Device Log:
PSTN GW-1
Line Calibration Data
Port VRMS Loss Index Profile RX Offset TX Offset
1 n/a n/a n/a n/a n/a n/a
2 n/a n/a n/a n/a n/a n/a
3 n/a n/a n/a n/a n/a n/a
4 n/a n/a n/a n/a n/a n/a
Line Calibration Configuration
Port Line Access Code Door Phone Mode
1
2
3
4
Save Configuration

Figure 139. Enabling Door Phone Mode

1. Enable Door Phone Mode.
   a. In the Navigation Menu at left, click **Device Management**, then **Device Log**.
   b. In the **Device Log** list, select the PSTN Gateway that will connect to the door phone.
   c. Under **Line Calibration Configuration**, select a PSTN Gateway port to be the door phone port (under **Door Phone Mode**) as shown in Figure 139.
   d. Click **Save Configuration**.
2. Name the trunk that the door phone will use.
   a. In the Navigation Menu at left, click **Trunk Naming**.
   b. On the Trunk Naming page, select the trunk (PSTN Gateway port) for which you enabled Door Phone Mode in Step 1.
   c. Give this trunk a name such as "Door" or "Entry" as shown in *Figure 140 on page 130*.

To configure a trunk port (FXO) door phone (Call Appearance mode) (Continued):

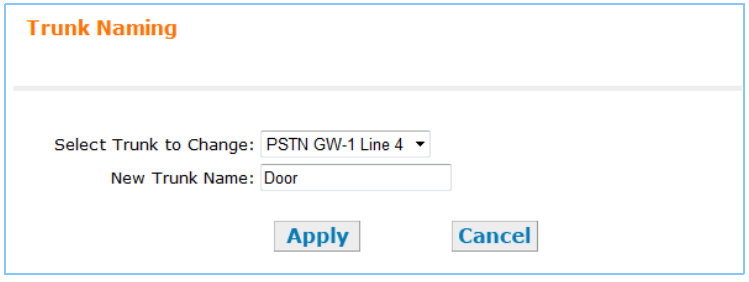


Figure 140. Door Phone Trunk Naming

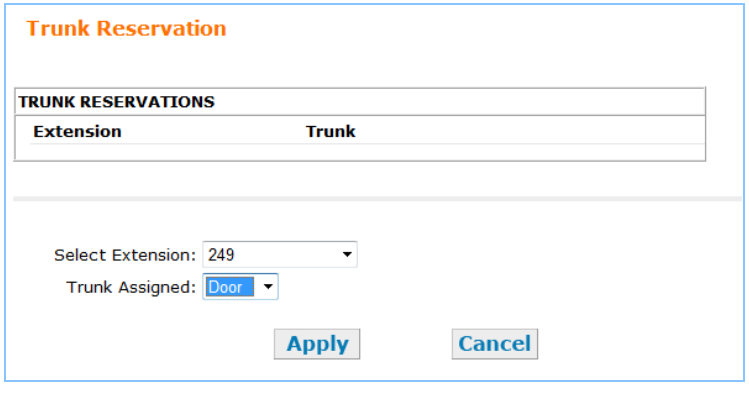


Figure 141. Door Phone Trunk Reservation

3. Click Apply.

4. Reserve the trunk that the door phone will use. Doing this will prevent other Desksets from seizing the door phone line for outside calls.

   a. In the Navigation Menu at left, click **Trunk Reservation**.

   b. Select an extension to reserve the door phone trunk for outgoing calls. The Deskset should then be disconnected from the network or used only for internal calls.

   c. In the **Trunk Assigned** list, select the trunk you named in Step 2, as shown in Figure 141

   d. Click Apply.

To configure a trunk port (FXO) door phone (Call Appearance mode) (Continued):

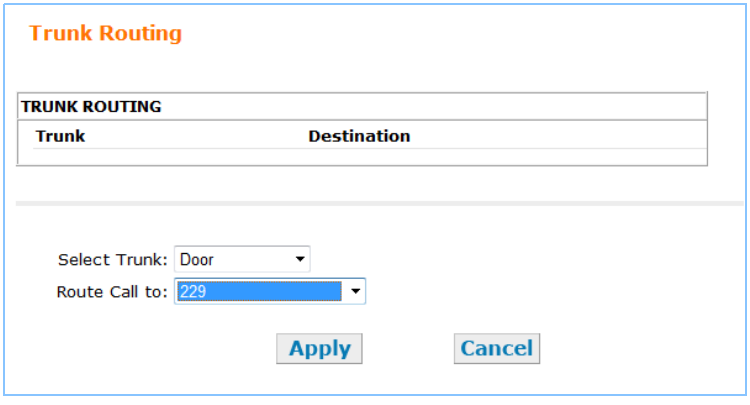


Figure 142. Door Phone Trunk Routing

5. Route the door phone trunk to the desired destination.
   a. In the Navigation Menu at left, click **Trunk Routing**.
   b. In the **Select Trunk** list, select the door phone trunk.
   c. In the **Route Call to** list, select the extension or Ring Group that you want the door phone to ring as shown in Figure 142.
6. Click Apply.

To configure a trunk port (FXO) door phone (Line Appearance mode):

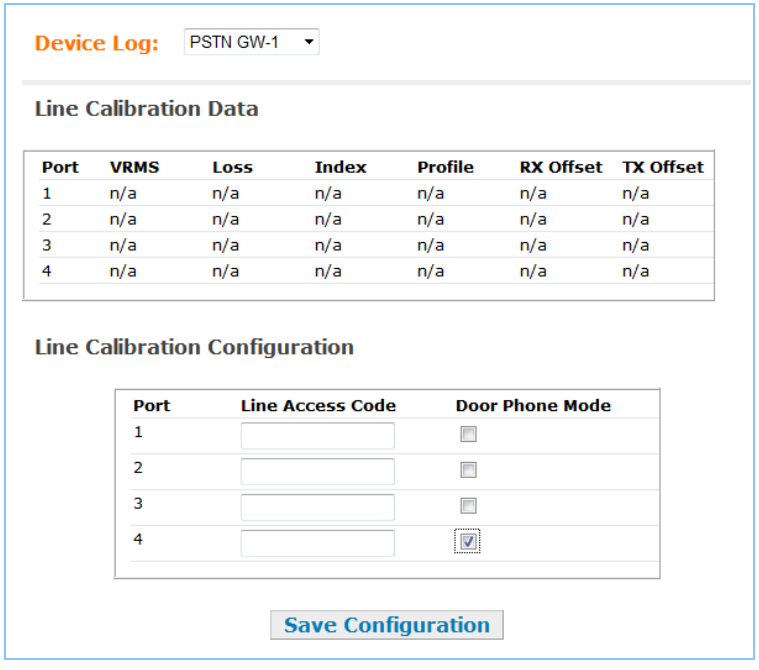

Device Log:
PSTN GW-1
Line Calibration Data
Port VRMS Loss Index Profile RX Offset TX Offset
1 n/a n/a n/a n/a n/a n/a
2 n/a n/a n/a n/a n/a n/a
3 n/a n/a n/a n/a n/a n/a
4 n/a n/a n/a n/a n/a n/a
Line Calibration Configuration
Port Line Access Code Door Phone Mode
1
2
3
4
Save Configuration

Figure 143. Enabling Door Phone Mode

1. Enable Door Phone Mode.
   a. In the Navigation Menu at left, click **Device Management**, then **Device Log**.
   b. In the **Device Log** list, select the PSTN Gateway that will connect to the door phone.
   c. Under **Line Calibration Configuration**, select a PSTN Gateway port to be the door phone port (under **Door Phone Mode**) as shown in Figure 143.
   d. Click **Save Configuration**.
2. Name the trunk that the door phone will use.
   a. In the Navigation Menu at left, click **Trunk Naming**.
   b. On the **Trunk Naming** page, select the trunk (PSTN Gateway port) for which you enabled Door Phone Mode in Step 1.
   c. Give this trunk a name such as “Door” or “Entry” as shown in Figure 144. Because this name appears on SB67030/031 Deskset screens, names should be four to six characters in length.
3. Click Apply.

To configure a trunk port (FXO) door phone (Line Appearance mode) (Continued):

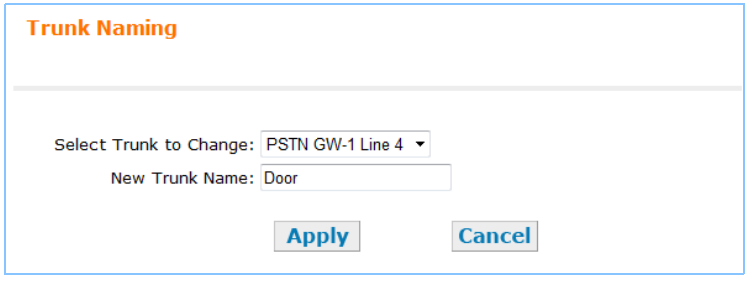


Figure 144. Door Phone Trunk Naming

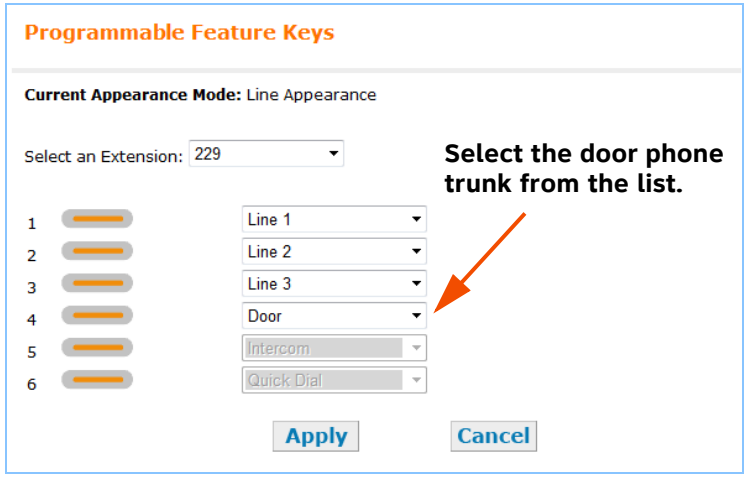


Figure 145. SB67030/031 Deskset PFKs

4. Assign the door phone trunk to an extension's Programmable Feature Key (PFK). You can assign this trunk to a single extension or multiple extensions, thereby controlling which Deskset users can answer door phone calls.

   a. In the Navigation Menu at left, click **Extension Settings**.

   b. Select an extension, then click **Feature Keys** in the Navigation Menu at left.

   c. Select the door phone trunk from the list for an available PFK. SB67030/031 Deskset PFKs are shown in Figure 145 and SB67020 Deskset PFKs are shown in *Figure 146 on page 134*.

   d. Click Apply.

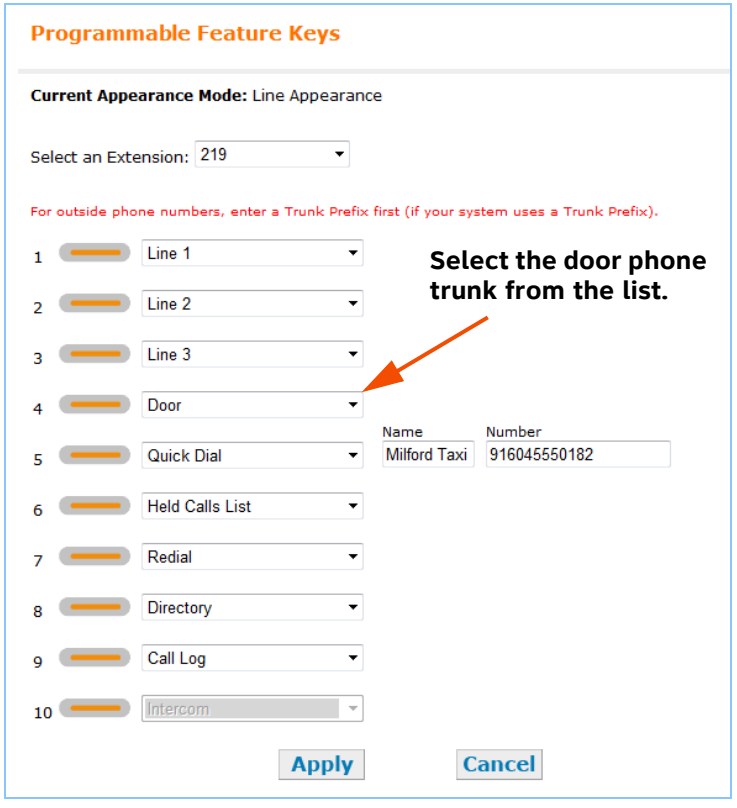


Figure 146. SB67020 Deskset PFKs

Line Calibration Configuration

If your system uses Centrex lines, you must enter an outbound line prefix or code in order for line calibration to take place. You should perform this procedure before connecting the lines to the PSTN Gateway. Consult your Centrex line provider for the correct code to enter.

NOTE Centrex lines operate in Line Appearance mode only.

To enter Centrex line access codes:

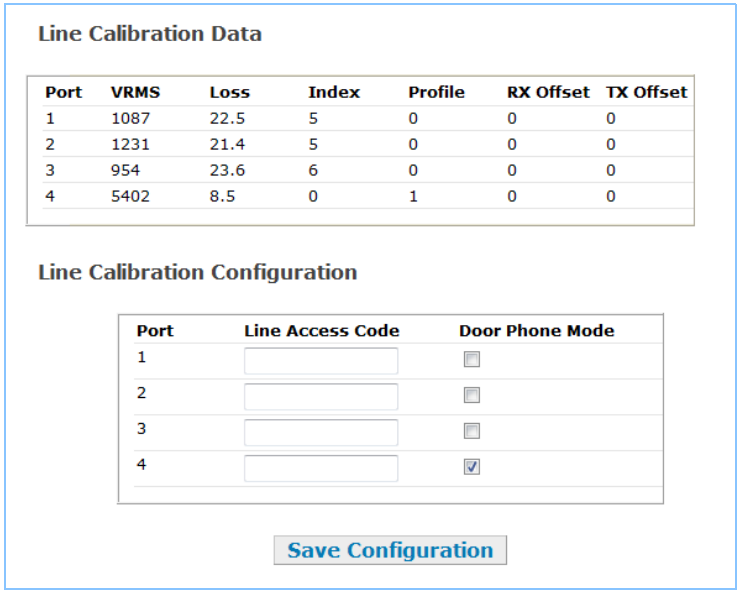

Line Calibration Data
Port VRMS Loss Index Profile RX Offset TX Offset
1 1087 22.5 5 0 0 0
2 1231 21.4 5 0 0 0
3 954 23.6 6 0 0 0
4 5402 8.5 0 1 0 0
Line Calibration Configuration
Port Line Access Code Door Phone Mode
1
2
3
4
Save Configuration

Figure 147. Line Calibration Data and Configuration

1. In the navigation menu at left, click **Device Management**, then **Device Log**.
2. Select the PSTN Gateway from the **Device Log** drop-down list. The page shown in Figure 147 appears.
3. Enter the Line Access Code for each line. Do not enter a code for a line that has been selected for Door Phone Mode.

NOTE The **Door Phone Mode** column is used for selecting a line for a Trunk Port (FXO) door phone. See *"Configuring a Trunk Port (FXO) Door Phone" on page 129*.

4. Click **Save Configuration**.

   You can now connect the physical lines to the PSTN Gateway.

Updating Devices

New software versions improve system functionality. All Gateways, the optional ATA, and all Desksets should be running the same software version number. (The optional Cordless Handsets and Cordless Headsets have different software version number sequences.)

You can update all devices with one command, or you can update the Synapse devices individually.

AT&T recommends automatic device software upgrades for installations with Internet access. This allows your system to obtain the latest upgrade from our server. Automatic upgrades may not work if your network's firewall prohibits connection to the AT&T servers, or if you do not have DNS services provided by your ISP. If Internet access is not available, or you need to manually initiate updates, see *"To manually update a device to the latest software version: (Continued)" on page 140*.

NOTE Sometimes devices with different versions of software cannot detect each other in the WebUI. Some versions of Synapse software codes are incompatible, so that when you use one device's IP address for logging into the WebUI, only the devices with compatible code versions appear in the device lists. For this reason, if you are updating devices individually, wait until all other devices are updated before updating the software version of the device whose IP address was used for logging into the WebUI. As a device is updated, it restarts with the new software version so it may disappear from the device list.

NOTE When you add a new "out of box" device that has software version 1.7.10 or higher to the system, the device automatically gets new software from the network and then restarts. Allow this process to complete before using the device. The process may take anywhere between 30 seconds to a few minutes, depending on server speed.

CAUTION *Although unlikely, some types of software upgrades could interfere with system settings and directories. Therefore, back up the system settings and Deskset settings before updating the system software. If you receive automatic updates, back up each device after each configuration change.*

The device restarts after a software upgrade. Ensure that there are no calls in progress or they will be dropped.

NOTE If a PC is installed in series with the Deskset, restarting the Deskset causes the PC's connection to the network to be briefly lost.

To automatically update all devices to the latest software version:

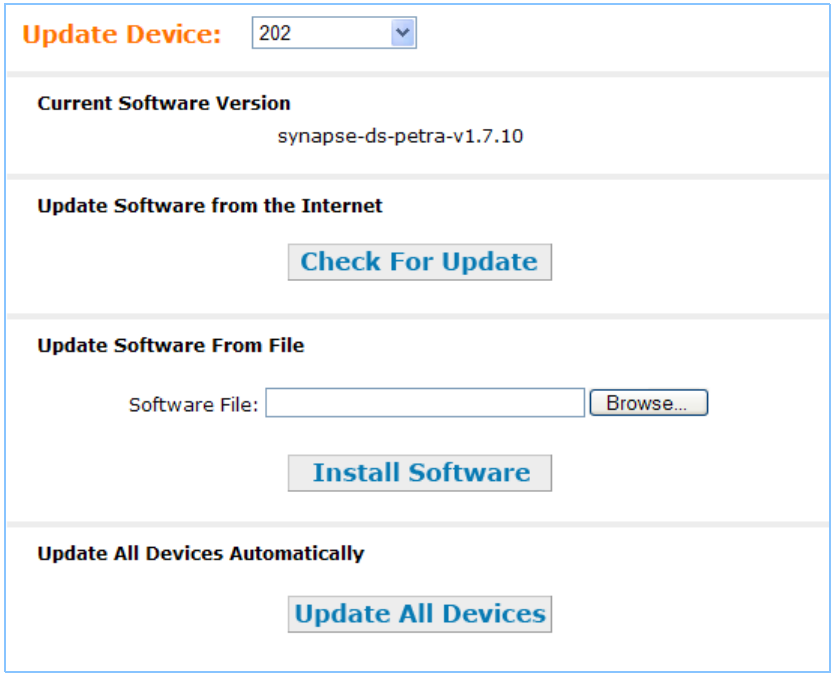


Figure 148. Update Device

1. In the Navigation Menu at left, click **Device Management**, then **Update Device**. The page shown in Figure 148 appears.
2. At the bottom of the page, press Update All Devices. The system looks on the Internet for the latest software and systematically updates and then restarts each device. All calls are dropped.

   A caution appears to remind you that all devices will be restarted as each is updated.

NOTE

Any Desksets registered with the system but disconnected at the time of the update will be updated as soon as they are reconnected to the system.

After you have started an update using Update All Devices, attempts to manually update a device through the device itself or the WebUI may be interrupted by the system software update in progress.

To automatically update all devices to the latest software version:

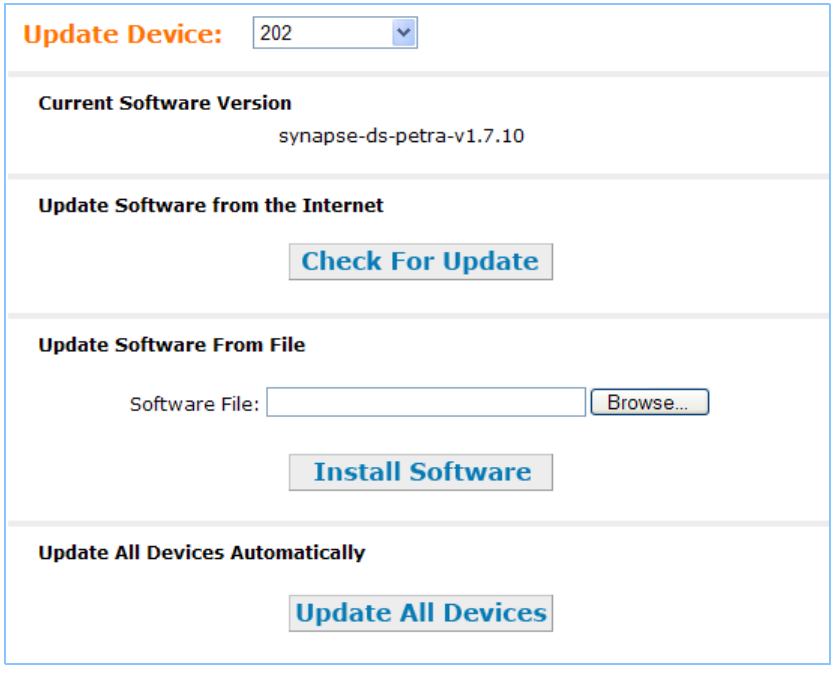


Figure 149. Update Device

NOTE

Using **Update All Devices** requires a minimum Internet download bandwidth of 1 Mbps and an Internet router that can handle the same number of total simultaneous connections as the number of Synapse devices. Refer to your router specification. Performing an update without meeting the minimum requirement may cause some or all devices not to update correctly. See *"System Upgrade" on page 172*.

The total time to update all the devices varies. The update time depends on Internet connection speed, the number of connections to the server, and the number of devices in the system. AT&T recommends conducting system updates overnight to reduce the impact on Deskset users.

If the automatic process does not work, you can manually upgrade a Deskset, Gateway, or ATA individually. Automatic upgrades may not work if your network's firewall prohibits connection to the AT&T servers, or if you do not have DNS services provided by your ISP.

Update the device whose IP address you used for logging into the WebUI after updating all other devices. Some versions of Synapse software codes are incompatible, so that when you use one device's IP address for logging into the WebUI, only the devices with compatible code versions appear in the device lists. For this reason, wait until all other devices are updated before updating the software version of the device whose IP address was used for logging into the WebUI.

To manually update a device to the latest software version:

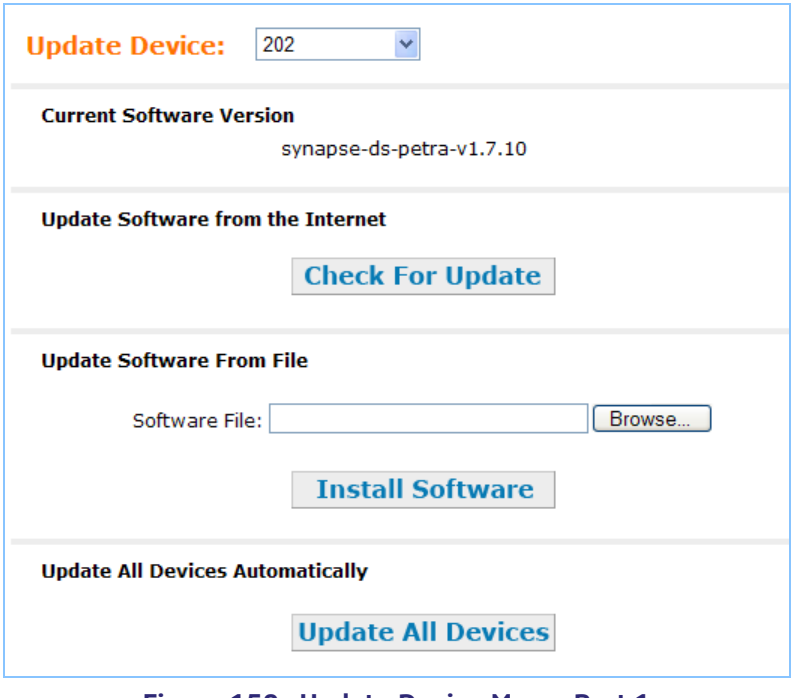


Figure 150. Update Device Menu, Part 1

1. In the Navigation Menu at left, click **Device Management**, then **Update Device**. The page shown in Figure 150 appears.
2. Select a Gateway, ATA, or Deskset to upgrade from the **Update Device** drop-down list.

   The Current Software Version for that device appears.

NOTE You can only upgrade one device at a time. Only the selected device is updated.

To manually update a device to the latest software version: (Continued)

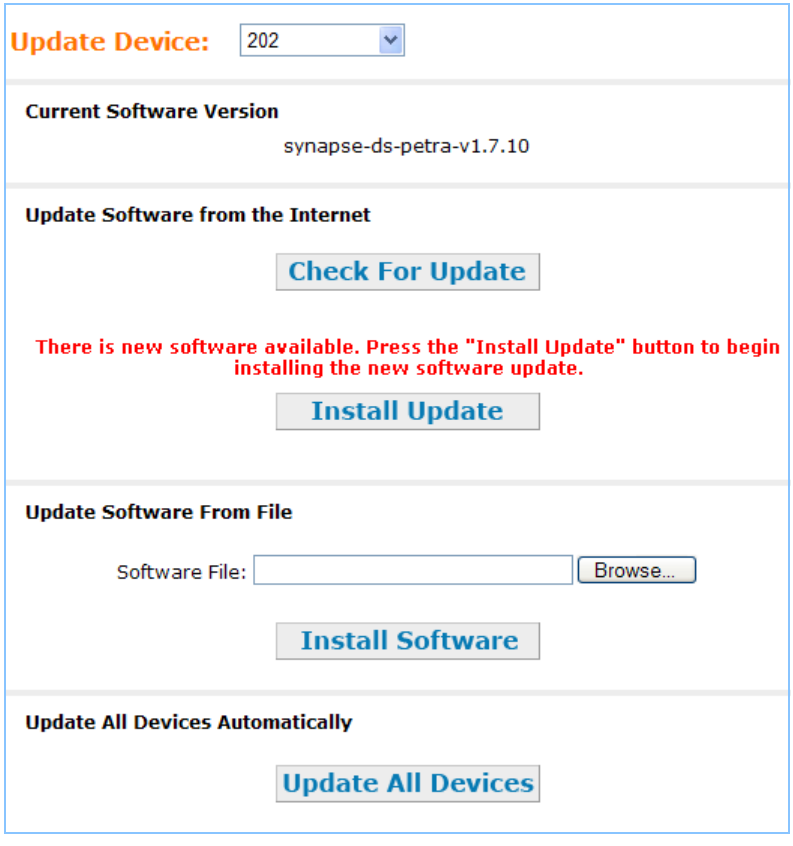


Figure 151. Upgrade Device Menu, Part 2

3. Click Check For Update.

   If there is an update available on the Internet, the message shown in Figure 151 appears. Click Install Update. The specified device restarts.

   OR

   In the **Update Software From File** section of the page, enter a file name or click Browse... to select a previously acquired upgrade file. Once selected, click Install Software. The specified device restarts.

4. After the device restarts, check the software version number at the device to confirm that the upgrade was successful.
   - On the Deskset: **MENU** –> **Deskset Information** –> **P Firmware Ver** [**030/031**] **Software Ver** [**020**].
   - On the Gateway or ATA: **Main Menu** –> **Device Information** –> **Software**.

NOTE

If the device is sluggish or unresponsive during the upgrade process, see *"A Synapse device becomes sluggish or unresponsive during or immediately after software upgrade." on page 172*.

As a device is updated, it restarts with the new software version so it may disappear from the device list if its software version is incompatible with the device whose IP address was used for logging into the WebUI.

Product Registration

In order to keep your system up to date with the latest upgrades and ensure timely warranty support, it is extremely important to register your system. You need the MAC address of each device to register them.

- For Desksets, at the Desksets, press **MENU**, then press **4**. On the **Deskset Information** screen, look for **MAC Address**, as shown in Figure 152.
- For Gateways and ATAs, at the devices, press **SELECT**, **DOWN**, **SELECT** and then **DOWN** until **MAC Address** appears, as shown in Figure 153.

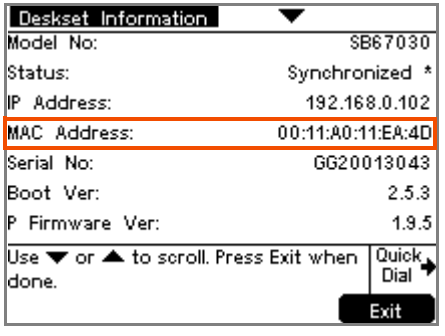


Figure 152. Deskset MAC Address

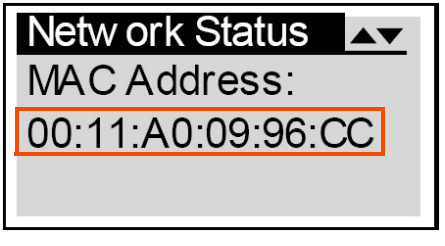


Figure 153. Gateway MAC Address

To register your Synapse system:

1. Open a new browser tab and navigate to the product registration web site **http://smbtelephones.att.com/registration**.
2. Select your products, then complete the form.
3. When the form is complete, click Register Product.

CHAPTER 4

TROUBLESHOOTING

If you have difficulty operating your system, try the following suggestions in this section:

- *"Common Troubleshooting Procedures" on page 143*
- *"Initial Installation" on page 158*
- *"Display Messages" on page 159*
- *"WebUI" on page 166*
- *"PC/Deskset Interaction" on page 174*
- *"Other Deskset Features" on page 175*
- *"SB67050 Analog Terminal Adapter" on page 179.*

NOTE For customer service or product information, contact the person who installed your system. If your installer is unavailable, visit our web site at **www.telephones.att.com/smb** or call **1 (888) 916-2007**. In Canada dial **1 (888) 883-2474**.

Common Troubleshooting Procedures

Follow these procedures to resolve common issues.

Resetting Devices

You may need to manually restart a device or return a device to factory defaults (see *"Appendix B: Default Settings" on page 205*). To reset a device, press the **RESET** button shown in *Figure 154 on page 144* and *Figure 155 on page 144* by inserting a pen or paper clip into the hole and applying pressure to the button. The T1 Gateway and ATA (not shown) have a **RESET** button in the same front-panel location as the PSTN Gateway. Although *Figure 155 on page 144* shows the SB67030 Deskset, the SB67020 Deskset reset button is in the same location.

To restart the device without losing any custom settings, press the **RESET** button for less than five seconds. You can get the same result by disconnecting and reconnecting power to the device. You can restart the device if the device does not respond or fails to synchronize with the system.

To completely reset the device to factory defaults, unplug the LAN cable and press the **RESET** button for more than five seconds. You might do this if the device is not synchronized or you want to reset the IP address settings to Auto (DHCP). Any static IP configurations are lost.

When resetting a Deskset to factory defaults, the system configuration (the user settings and Personal directory) and Voicemail messages, Call Log, and the Redial list are all deleted. You can use this complete reset when assigning Desksets to new users. If you do not disconnect the LAN cable before pressing the **RESET** button, the extension number is retained. During the reset, any PC connected to the Deskset PC port momentarily loses network connectivity.

NOTE To reset the entire system to factory defaults and completely clear the system of all settings (Auto Attendant, Ring Groups, hold message, and System Directory) and Voicemail messages, unplug the LAN cables from all devices and press the **RESET** button for more than five seconds on each device. Then reconnect all devices to the LAN.

If there is one Gateway in the system, but there are still Desksets connected, then only the voice prompts and hold messages are deleted; the rest of the Auto Attendant settings are maintained on the Desksets. If there is another Gateway, the other Gateway maintains all system configuration settings.

NOTE If you have already set up the system, back up the Deskset and system settings before resetting the device to factory defaults.

For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.

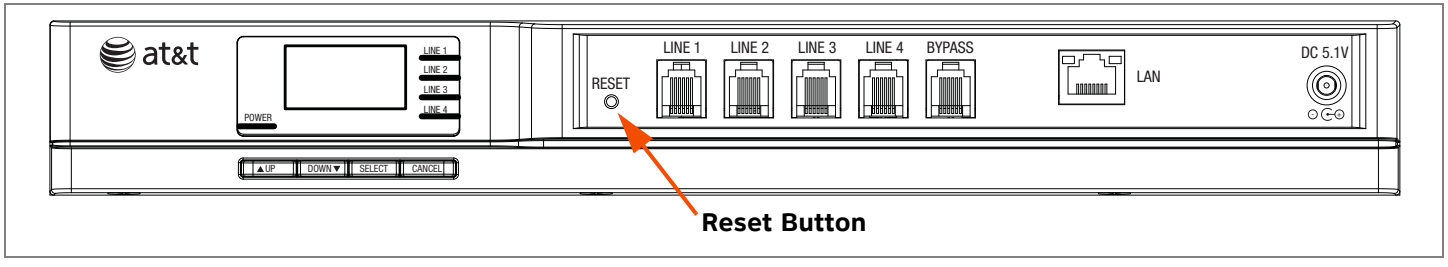


Figure 154. PSTN Gateway Reset Button

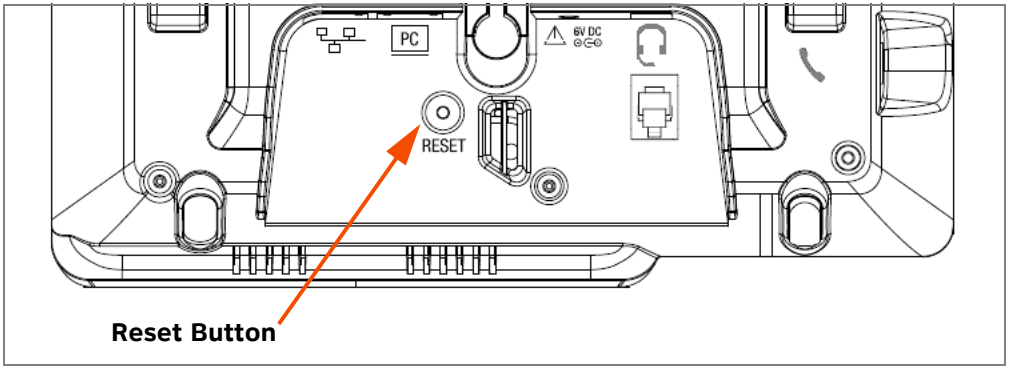


Figure 155. Deskset Reset Button

Resolving General Functional Issues

To resolve a blank screen or device that does not work at all:

- Ensure the AC plug is plugged into an electrical outlet not controlled by a wall switch.
- Verify that the AC power outlet has power. Try plugging in some other AC device. If nothing works, contact an electrician or use another power outlet.
- Verify that the DC plug is plugged into the power jack on the device.
- The system devices are not immediately active when powered up and after a power interruption. Allow at least 30 seconds for the device to boot up.
- If this is a Gateway or ATA, check the LED status. The POWER LED should be **GREEN**.
- For Desksets connected to PoE, check whether any PoE switch ports have been configured for devices that require less power. If so, configure your PoE switch to auto-detect device power requirements. For Deskset PoE specificiations, see *page 203*.

To resolve a sluggish, unresponsive, or unusually behaving device:

Reset the device by pressing the **RESET** button for less than five seconds or by removing and restoring AC power.

CAUTION

Pressing the **RESET** *button for more than five seconds will erase all data and settings.*

To resolve an incorrect system clock:

If the system clock displays the wrong time, the system lacks Internet access for acquiring current time data.

1. Log in to the WebUI as administrator and click **System Basic Settings**.
2. In the **System Time/Date Options** section, specify a local Network Time Protocol (NTP) Server, or manually set the time. Then click Apply.

To restore a Deskset to factory defaults:

To restore a Deskset to factory defaults, insert a pen or paper clip into the reset hole on the bottom of the Deskset and press for more than five seconds.

To resolve problems with a cordless device:

For features or audio problems, make sure that the Deskset associated with the cordless device does not share the problem. If it does, look in Deskset Troubleshooting. See *"Other Deskset Features" on page 175*.

1. Verify that the device battery has power.
   - When removed from the charger, the Handset screen is lit for about 30 seconds.
   - When removed from the charger, the Headset emits a dial tone or three beeps when you press **ON**/OFF.

     If there is no power, see *"SB67040 Cordless Handset Installation" on page 58* or *"TL7600 Cordless Headset Installation" on page 61*".
2. Verify that the Deskset **Cordless Settings** screen indicates that the device is registered.
   - Press **MENU** –> **2** –> **6**. In Line Appearance mode, press **MENU** –> **2** –> **3**.
   - If the Handset is not registered, register it:

     NOTE You cannot register a Cordless Handset in Line Appearance mode.

     a. Place the Handset in the charger.

     b. At the Deskset, press **MENU** –> **2** –> **6** –> **1** –> Register.
   - If the Headset is not registered, register it:

     a. Place the Headset in the charger.

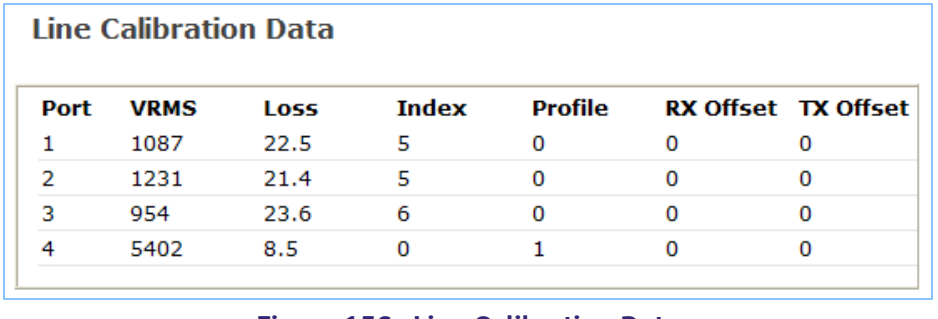
     b. At the Deskset, press **MENU** –> **2** –> **6** –> **2** –> Register. In Line Appearance mode, press **MENU** –> **2** –> **3** –> **2** –> Register.

Resolving PSTN Gateway Audio Echoes

The SB67010 PSTN Gateway uses automatic telephone line calibration to ensure optimal audio performance on outside calls. If excessive echo occurs on outside calls consistently, observe the Gateway line calibration data to understand any telephone line issues. Occasional echoes may be caused by the other person's phone.

To resolve audio echo issues:

1. Log in to the WebUI as administrator. Click **Device Management**, then **Device Log** in the Navigation Menu at left.
2. Select the PSTN Gateway from the drop-down list. Line Calibration Data appears as shown in Figure 156.
3. Check the loss numbers within the Line Calibration Data box for each telephone line on each Gateway. (A loss number above 10 indicates good audio performance.)



Line Calibration Data

Port	VRMS	Loss	Index	Profile	RX Offset	TX Offset
1	1087	22.5	5	0	0	0
2	1231	21.4	5	0	0	0
3	954	23.6	6	0	0	0
4	5402	8.5	0	1	0	0

Figure 156. Line Calibration Data

To resolve audio echo issues: (Continued)

4. If the loss number is below 10, the system will most often function normally, but there is an increased likelihood of audio performance issues like echo. If the loss number is below 10 the following procedures can be used to increase the loss value:

   a. Unplug that telephone line at the Gateway.

   b. After the line LED turns red, plug the line back in to recalibrate.

5. If the recalibration has no effect, a parallel device such as a fax adapter, alarm system, DSL modem, or DSL splitter/filter may be connected to the system. Parallel external devices may affect line calibration. Disconnect these devices from the telephone wall jacks that are connected to the same telephone lines, as follows:

   a. Unplug these non-system external devices from their telephone wall jacks.

   b. Unplug the telephone line connections from the Gateway.

   c. After the Gateway Line-Status LEDs turn red, plug the telephone lines into the Gateway again to recalibrate.

   d. If there is a significant increase in the loss number and improved audio performance on those lines after disconnecting a parallel device, consult your telephone service provider to either investigate the problem or to install separate lines for those parallel devices.

Resolving General Audio Issues

Check the following if you hear static, sudden silences, gaps in speech, echoes, distorted speech, or garbled speech.

To resolve general audio issues:

You may be experiencing network problems.

- Your LAN administrator should ensure the following minimum guidelines are met:
  - A switched network topology, which requires attaching network components to switches rather than hubs, is recommended. The network should use standard 10/100 Ethernet switches that carry traffic at a nominal rate of 100 Mbit/s.
  - The office network infrastructure should use Cat.-5 wiring.
- Do not connect a network server PC to the PC port on the Deskset.

If you have Digital Subscriber Line (DSL) service, you may be experiencing telephone line problems.

- Make sure you have a DSL filter plugged in between each DSL line and the telephone wall jack.
- You may need a higher quality DSL filter than you are currently using. You can also try plugging in multiple DSL filters in sequence to decrease DSL interference.
- Move the DSL line to the lowest priority line, which is Line 4 on the highest numbered PSTN Gateway, as indicated on the Gateway display.

The PSTN Gateway might not have recognized a new outside telephone line, so line calibration — which allows the PSTN Gateway to adjust its performance depending on the phone lines' characteristics — did not occur. After unplugging the telephone line, wait two full seconds for the LED to turn red before plugging the telephone line back into the Gateway.

Reintroducing a Deskset Into the System

If there are no more than 100 Desksets in the system and a Deskset screen displays **Synch Failed** or **Synchronizing** for a long time, you may need to remove the Deskset from the system and reintroduce it. This problem may have been caused by a network disruption, the Deskset having been part of a different network, or by an AC power failure.

To reintroduce a Deskset into the system:

1. Ensure that the Deskset is connected to the same LAN subnet as other system Gateways and Desksets. Ensure that the PC you will use to access the WebUI is either on the same subnet as Synapse, or that the PC subnet can communicate with the Synapse subnet. Devices on the same subnet generally share the first three octets of their IP addresses. If the subnets are different, contact your installer.
2. If you want to retain the programming for a problem Deskset, back up the Deskset.
   a. Log in to the WebUI as administrator on the problem Deskset. Click **Device Management**, then **Back up/Restore**, and then **Extension Settings** in the Navigation Menu at left.
   b. Select the extension from the **Select Extension to Back up** drop-down list, and click Back up Extension to save the file to a specified location on your computer. You will need to locate and retrieve this file later, so make sure you remember where you saved it. The default file name will be in the format:

      backup_ds_[extension number]_[year]-[month]-[day]_[time].cfg.

      If you back up the same extension less than one minute after creating the backup, you may overwrite the earlier backup file.

To reintroduce a Deskset into the system: (Continued)

3. Perform a complete factory reset to return to the values set at the factory.

   a. Unplug the LAN cable.

   b. Insert a pen or the end of a paper clip into the reset button, located on the underside of the Deskset, as shown in Figure 157. Hold until **Restoring to Factory Defaults** appears on the screen (approximately 5 seconds).

      After the Deskset restarts, the screen displays **EXT 0**.

   c. Reconnect the LAN cable.

      The Deskset rejoins the system. Unless the entire system was reset, the Deskset retains its previous extension number. After the Deskset rejoins the system, the screen changes from **EXT 0** to the previous extension number.

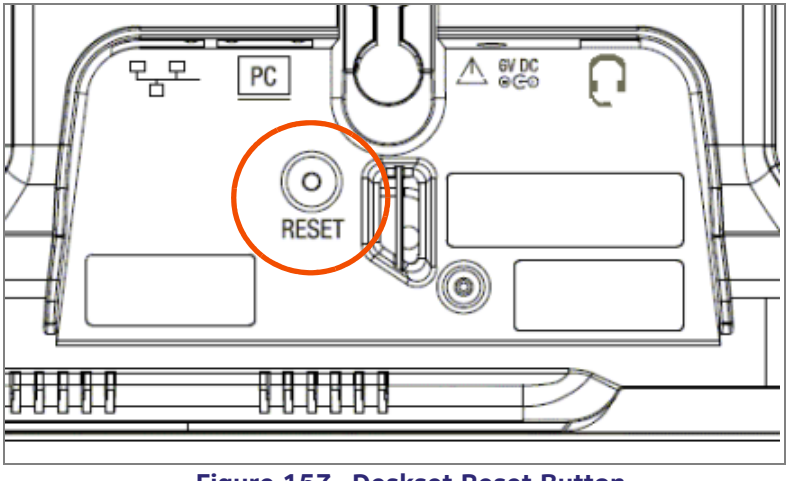


Figure 157. Deskset Reset Button

To reintroduce a Deskset into the system: (Continued)

4. If you backed up the Deskset settings in Step 2, restore your settings.

   a. Log into the WebUI as the Administrator at the PC where you stored the backup file.

      Synapse Desksets with static IP addresses need to have new addresses assigned if the Deskset IP addresses are to be used for logging into the WebUI. At the Deskset, press **MENU** –> **3** –> **3** –> **2** to set the **IP address**.

   b. Click **Device Management**, then click **Back up/Restore**.

   c. Under **Restore Extension Settings**, select the Deskset's extension number from the **Select Extension to Restore** drop-down list.

   d. Select the backup file.

   e. Click **Restore Extension**.

Reintroducing a Gateway or ATA Into the System

If there are no more than five Gateways in the system (four PSTN Gateways and one T1 Gateway), and a Gateway or ATA screen displays **Synch Failed** or **Synchronizing** for more than a few minutes, you may need to remove the Gateway or ATA from the system and reintroduce it. This problem may have been caused by the Gateway or ATA having been part of a different network or by a network disruption, which may have been caused by an AC power failure.

To reintroduce a Gateway or ATA into the system:

1. Ensure that the Gateway or ATA is connected to the same LAN as other system Gateways, Desksets, and the PC you will use to access the WebUI. Confirm that the first three octets of the IP address match other devices in the system.
2. Back up the system if you are reintroducing a Gateway and this is the only Gateway.

   NOTE If you are reintroducing a Gateway or ATA, and there are other Gateways that are synchronized, this step is not necessary.

   a. Log in to the WebUI as administrator using the Gateway or ATA **IP Address** shown on the Gateway or ATA display.
   b. Click **Device Management**, then **Back up/Restore**, then **System Settings** in the WebUI Navigation Menu at left.
   c. Click **Back up System Settings** and save the file to a specified location on your computer. You will need to locate and retrieve this file later, so make sure you remember where you saved it. The file name will be in the format:

      backup_system_[year]-[month]-[day]_[time].cfg.

      If you back up the system less than one minute after creating another backup, you may overwrite the earlier file.

      The system backup also saves ATA setup information.
3. Disconnect the Gateway or ATA from the network by unplugging the Ethernet cable from the Ethernet port located on the front of the Gateway.

To reintroduce a Gateway or ATA into the system: (Continued)

4. Complete a factory reset to restore factory values. Insert a pen or the end of a paper clip into the reset button (located on the front of the Gateway and ATA) and hold it for more than five seconds until the LCD displays **Restoring to factory defaults**.
5. Reconnect the Gateway or ATA to the network and ensure that it synchronizes with the other devices.
6. If you are reintroducing the only system Gateway, restore your settings.
   a. Log in to the WebUI as administrator at the PC where you stored the backup file.
   b. Click **Device Management**, then **Back up/Restore**, then **System Settings** in the Navigation Menu at left.
   c. Under **Restore System Settings**, click Browse... and select the correct backup file.
   d. Click **Restore System Settings**.

Power Failure Recovery Procedure

The Synapse system automatically recovers after a power failure. The following describes the recovery process.

Allow about a minute for the Gateways and ATA to boot up when power returns after a power failure. The power-up sequence for the Gateways and ATA follows:

1. About 20 seconds after turning on power to the device, the POWER LED turns on.
2. When the device finds the network, **Synchronizing** momentarily appears, indicating that the device is in the process of detecting and synchronizing with other system devices, as shown in Figure 158.
3. Once the device has successfully finished synchronizing with the rest of the system, **Synchronized** appears, as shown in Figure 159.

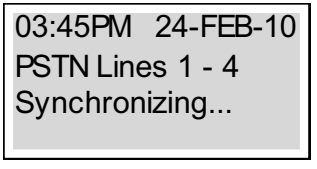


Figure 158. Synchronizing

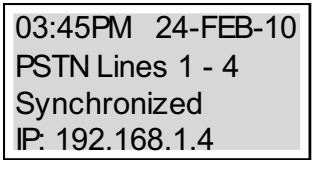


Figure 159. Synchronized

When AC power returns after a power failure, the system self-assigns a link-local address to the Deskset beginning with number 169.254.

- If the Deskset is set for automatic IP address configuration, it searches for the DHCP server. If the DHCP server is found, it assigns an IP address.
- If the Deskset is set with static IP addresses, the address does not change.

NOTE

The time and date may not be correct. The time and date are set in System Basic Settings on the WebUI.

The Desksets also automatically restart and synchronize after an AC power failure.

Check each Deskset, Gateway, and the ATA to confirm that each has started up properly. A Deskset screen similar to the one shown in Figure 160 [**020**] or Figure 161 [**030/031**] appears. If any of the system devices report **Synch Failed** or **Synchronizing** for more than a few minutes, see *"Reintroducing a Deskset Into the System" on page 151* and *"Reintroducing a Gateway or ATA Into the System" on page 154* for probable causes and recovery methods from these states.

NOTE Some systems will take longer than others depending on the network topology.

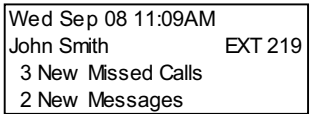


Figure 160. 020 Deskset Idle Screen

Figure 161. 030/031 Deskset Idle Screen

Initial Installation

Symptom	Probable Cause	Corrective Action	Initial Installation
The device screen displays **Synchronizing**.	The device has previous data and settings that are now inconsistent with current system settings.	■ Erase all Deskset data and settings by unplugging the LAN cable and pressing the reset button on the bottom of the Deskset for more than five seconds. ■ The Ethernet cable may be connecting the Network port on the bottom of the Deskset, marked , to another system device, rather than to the Network. Make sure the Ethernet cable is attached to the LAN.	

Display Messages

Symptom	Probable Cause	Corrective Action	Display Messages
The Gateway screen is blank.	Many.	■ See *"To resolve a blank screen or device that does not work at all:" on page 145*.	
The Gateway screen displays **Joining Site...** for more than one minute.	The Gateway is failing to synchronize with a Deskset configured for a different system configuration.	■ Always disconnect the LAN cable before restoring factory defaults (by pressing the **RESET** button more than five seconds).	
The device screen displays **Network Down**.	The Ethernet cable is unplugged.	■ Ensure that one end of the Ethernet cable is plugged into the port marked LAN on the device and that the other end is plugged into your office LAN. ■ Confirm that the Ethernet port light next to the Ethernet port is green. If it is not, unplug the cable and plug it in again.	
	There may be a problem with the office network.	■ Check if other network devices, such as computers, are communicating with the network. If not, then contact your IT administrator.	

Symptom	Probable Cause	Corrective Action	Display Messages
The device screen displays **Synch Failed**.	The device synch failed when trying to connect to the system.	■ Reset the device. Insert a pen or paper clip into the reset hole and press the reset button for less than five seconds.	
	The device was disconnected, then reconnected after configuration changes were made to the system.	■ See *"Reintroducing a Deskset Into the System" on page 151* or *"Reintroducing a Gateway or ATA Into the System" on page 154*.	
	The device was configured on another network or has returned to the system after being deleted from the system.	■ Reset to factory defaults by using a paper clip to press and hold the reset button for more than five seconds. See *"Reintroducing a Deskset Into the System" on page 151* or *"Reintroducing a Gateway or ATA Into the System" on page 154*.	
	The maximum number of that type of device has been reached.	■ A device must be removed from the network and deleted from the system before another device can be added.	
	The same Deskset extension number already exists.	■ Reset the Deskset to factory defaults without the network cable connected. Use a paper clip to press and hold the reset button for more than five seconds.	

Symptom	Probable Cause	Corrective Action Display Messages
The device screen displays **Synchronizing**.	Not enough time has elapsed.	■ The device may display **Synchronizing** for a few seconds. This is normal and does not indicate a problem.
	This device is the first Synapse device on the network.	■ Connect another Synapse device to the network.
	The devices are on different subnets.	■ If you use static IP addresses, ensure that the first three octets of the device IP address matches the IP addresses of the other system devices. See *"Network Requirements" on page 32*.
	The device may have been configured on another network.	■ Power cycle the Deskset by unplugging the power cord and plugging it back in. ■ If power cycling does not work, back up your Deskset and reset to factory defaults. a. Back up the Deskset. See *"Reintroducing a Deskset Into the System" on page 151*. b. Unplug the LAN cable c. Press the **RESET** button for at least five seconds. d. Restore your settings after the Deskset restarts.
Deskset cannot make or receive phone calls and the Deskset screen displays **Synchronizing**.	The Deskset may have an incompatible software version.	■ Log in to the WebUI using the IP address of the Deskset and update the software. See *"Updating Devices" on page 136*.

Symptom	Probable Cause	Corrective Action	Display Messages
A Synapse device displays **Host Not Found** after a user attempts a software upgrade.	The user attempted a software upgrade with no outside Internet connection.	■ Ensure you have Internet connectivity and that your connection to your Internet Service Provider is operating normally. ■ Ensure your firewall is not blocking http requests. ■ Ensure that http requests are not being directed to a firewall log-in page. ■ Ensure that your http requests are not being routed through a proxy server.	
A Synapse device displays an error message other than **Host Not Found** after a user attempts a software upgrade.	The device encountered an unexpected problem.	1. Disconnect the power to the device, wait a few minutes, then reconnect the power and try the upgrade process again. 2. If the error message persists, contact the person who installed your system. 3. If your installer is unavailable, visit our web site at **www.telephones.att.com/smb** or call **1 (888) 916-2007.** In Canada, call **1 (888) 883-2474**.	

T1 Gateway Indicators

Symptom	Probable Cause	Corrective Action	T1 Gateway Indicators
I cannot make or receive phone calls and the T1 Gateway SYN/ACT LED is **Green**.	There are no T1 channels available to make the call.	■ Check the T1 trunk configuration. a. Log in to the WebUI as administrator, click **System Settings**, then **T1 Settings**. b. Verify that **Number of Voice Channels** and **Lowest Voice Channel** have been configured correctly according to your T1 service. c. Click **Trunk Reservation** and verify that the assignments are correct.	
I cannot make or receive phone calls and the T1 Gateway RAI/LOF/LOS LED is Yellow.	The Yellow Alarm is a Remote Alarm Indication. Telephone equipment outside of your Synapse system is sending an alarm that signals that it is receiving unreliable signals.	1. Check the T1 Settings to confirm that the configuration parameters (Signaling type, Build out) correspond to the service provider's. 2. If the problem remains, contact your T1 service provider.	
I cannot make or receive phone calls and the T1 Gateway RAI/LOF/LOS LED is **RED**.	The Red Alarm indicates Loss of Frame. A signal is present, but its pattern cannot be interpreted. There is an error in the signal from the service provider.	1. Check the T1 Settings to confirm that the configuration parameters (Signaling type, Build out) correspond to the service provider's. 2. If the problem remains, contact your T1 service provider.	

Symptom	Probable Cause	Corrective Action	T1 Gateway Indicators
I cannot make or receive phone calls and the T1 Gateway RAI/LOF/LOS LED is flashing **RED**.	The Flashing Red alarm indicates Loss of Signal There is loss of valid signal from the service provider.	1. Verify that your T1 cable is connected to the equipment. 2. Check the T1 Settings to confirm that the configuration parameters (Signaling type, Build out) correspond to the service provider's. 3. If the problem remains, contact your T1 service provider.	
I cannot make or receive phone calls and the T1 Gateway AIS LED is flashing **BLUE**.	The Blue Alarm is an Alarm Indication Signal. The T1 circuit is operating correctly, but the service provider is not sending proper data.	■ Contact your T1 service provider.	
I cannot make or receive phone calls and the T1 Gateway LOOPBK LED is **GREEN** or flashing **GREEN**.	The system is in Local Network or Loopback test mode.	■ The LOOPBK LED should only be ON when you have activated a Loopback test. If this test should not be running, disable the Loopback Test in the Admin WebUI. a. Log in to the WebUI as administrator, click **T1 Settings**, then **T1 Diagnostics**. b. Change the T1 in loopback test mode by selecting from the **Set Loopback Mode** drop-down list. c. Select **none** and then Apply to stop the test.	
I cannot make or receive phone calls and the T1 Gateway LOOPBK LED is **RED**.	The T1 Gateway is not synchronized with the Synapse system.	■ Check the Ethernet Connection to your Synapse T1 Gateway.	

Symptom	Probable Cause	Corrective Action	T1 Gateway Indicators
I cannot make or receive phone calls and the T1 Gateway SYN/ACT LED is **OFF** and RAI/LOF/LOS LED is **RED**.	The T1 Gateway is not synchronized with the T1 service.	■ Check the correct T1 cable is used and that it is properly connected to the T1 Gateway.	

PSTN Gateway Setup

Symptom	Probable Cause	Corrective Action	PSTN Gateway Setup
On a PSTN Gateway, Line-Status LEDs do not flash red when the telephone line cords are plugged into the Gateway after power is switched on.	Line calibration allows the PSTN Gateway to adjust its performance depending on the phone lines' characteristics. The Gateway may not have performed calibration.	■ Make sure an Ethernet cable is plugged into the port marked LAN. ■ Unplug the PSTN telephone line and wait two full seconds for the Gateway line LED to turn red before plugging it back in.	
On a PSTN Gateway, Bypass jack does not work during power failure.	The PSTN line is not in the correct jack.	■ Make sure there is a PSTN line plugged into Line 4. ■ Make sure an analog phone is plugged into the Bypass jack (using a modular line cord).	

WebUI

Administrator WebUI

Symptom	Probable Cause	Corrective Action Administrator WebUI
The WebUI is unresponsive.	The web browser encountered an unexpected problem.	1. Close the unresponsive web browser, reopen the browser, and log back in as administrator. 2. If this does not work, try again using the IP address of a Deskset that is connected to the PC you are using. 3. If this does not work, try closing the browser and waiting 10 minutes before logging back in.
Some WebUI menus are missing.	WebUI menus change according to which devices are connected to the system.	■ Verify the following devices and settings: • T1 Gateway (some features are only available with a T1 Gateway) • ATA (some features are only available with an ATA) • Appearance mode (setting the mode to Line Appearance disables many features) • FXS port assignment (fax and OHP settings depend on FXS assignment)

Symptom	Probable Cause	Corrective Action Administrator WebUI
The WebUI displays "Login to target device failed."	The software version of the device you are currently logged into is no longer compatible with the software version of other devices within the network.	1. Log in to the WebUI as administrator using the IP address of the device that caused the problem. Click **Device Management**, then **Update Device** in the WebUI Navigation Menu at left. 2. Click Install Update. The selected device updates its software and reboots. 3. After the device reboots, check the software version number on the device to confirm that the upgrade was successful. ■ On the Deskset, press **MENU** –> **4**. Note the **P Firmware Ver** [**030/031**] or **Software Ver** [**020**] value. ■ On the Gateway or ATA, press the SELECT key to access the **Main Menu**. Then select **Device Information**, then **Software Version**.
	The device to be updated is unplugged.	■ Verify that the device is powered up.
	The device to be updated has failed to synchronize with the system.	■ Verify that the other device says **Synchronized**. If it does not, see *"Reintroducing a Deskset Into the System" on page 151* or *"Reintroducing a Gateway or ATA Into the System" on page 154*.

Symptom	Probable Cause	Corrective Action Administrator WebUI
A Synapse device upgrade failed, the WebUI displays "Login to target device failed", and the WebUI and device screens display the old software version.	The software version of the device you are currently logged into is no longer compatible with the software version of other devices within the network.	1. Log in to the WebUI as administrator using the IP address of a device that does not have updated software and is not having any problems. Click **Device Management**, then **Update Device**. 2. Select a device from the **Update Device** drop-down list. Do not select the device whose IP address you are using. 3. Click Install Update . The selected device updates its software and reboots. 4. After the device reboots, check the software version number on the device to confirm that the upgrade was successful. ■ On the Deskset, press **MENU** –> **4**. Note the **P Firmware Ver** [**030/031**] or **Software Ver** [**020**] value. ■ On the Gateway or ATA, press the SELECT key to access the **Main Menu**. Then select **Device Information**, then **Software Version**. 5. After updating all other devices, upgrade the device whose IP address you are using.

Symptom	Probable Cause	Corrective Action Administrator WebUI
.Some devices did not update after using Update All Devices.	Did not allow enough time for software to update due to a slow Internet connection.	■ Wait 30 minutes, then check whether additional devices have been updated. If devices are still being updated, then the Internet connection is slow and you must wait for all the devices to complete the update process. ■ If the update has failed (you see a failure message), retry Update All Devices. Allow sufficient time for the upgrade process to complete. You may prefer to schedule a system update to take place overnight. ■ Update individual devices manually either through the front panel or through the WebUI for that particular device. NOTE If you are using the WebUI to upgrade the device, ensure that you log in using that device's IP address. ■ Power cycle each device that did not get upgraded. Unplug the power cord and plug it back in. As each device reboots, it automatically updates (if it detects updated software in the system).
The **Outgoing Caller ID** option does not appear on the **Extension Basic Settings** page of the administrator WebUI.	A DID number has not been assigned.	■ Assign a DID number to the extension. a. On the WebUI, click **Extension Settings**, then **Basic Settings**. b. Select a DID number from the **Select DID** drop-down list.

Symptom	Probable Cause	Corrective Action Administrator WebUI
An extension number was not changed correctly.	That extension may have been on a call while the extension number was changed in the WebUI, or someone tried to change the extension number to a number that was already being used.	■ Change the extension number again. Make sure no one is using that extension while you are changing its settings. a. Log in to the WebUI as administrator, click **Extension Settings**, then **Basic Settings**. b. Enter a new extension number in the range 100–999 into the **Change Extension Number to** box.
I changed an extension number, but the DID number did not change.	DID numbers do not change when extension numbers are changed.	■ Assign a DID number to the extension. a. Log in to the WebUI as administrator and click **Extension Settings**, then **Basic Settings**. b. Select a DID number from the **Select DID** drop-down list.
I cannot find the specific DID number for assignment on the **DID Assignments** page or the **Fax Configuration** page.	There may be a DID range error or the DID has been used.	■ The DID is not within the DID ranges configured or the DID has been already assigned to another Deskset. Check the DID ranges configuration. a. Log in to the WebUI as administrator, click **System Settings**, then **Direct Inward Dial**. b. Verify the **Current DID Ranges**.
WebUI reverts to Log-in page after clicking a navigation link.	The browser is not checking for newer version of pages.	■ Ensure that your Internet browser is working normally. It may not be automatically caching pages. For example, in Internet Explorer 7, click **Tools** –> **Internet Options**. Then under **Browsing history**, click **Settings**. Under **Check for newer versions of stored pages**, select **Automatically**.

Symptom	Probable Cause	Corrective Action Administrator WebUI
Changes I make to the T1 Settings WebUI page do not change the system.	Clicking Apply alone may not perform the needed reset of the T1 Gateway.	■ After you make changes to the T1 Settings WebUI page and click Apply, press the T1 Gateway **RESET** button for less than five seconds or remove and restore AC power to the T1 Gateway. CAUTION *Pressing the* **RESET** *button for more than five seconds will erase all data and settings.*
Changes made to System Configuration from the WebUI are not saved.	More than one person is using the WebUI to change System Configuration at the same time.	■ Make sure only one person logs on as the administrator at a time.
	Apply must be clicked on each page to confirm the changes.	■ Click Apply on each page to confirm the changes.
Prompt created for Auto Attendant menu or Hold Announcement is not saved.	You must hang up the extension before saving the recording.	■ After recording a prompt for an Auto Attendant menu or for the Hold Announcement, hang up the extension before clicking Save Recording in the WebUI.
I cannot record a Hold Announcement or an Auto Attendant prompt.	Calls to the extension you want to use may be immediately forwarded.	■ Choose an extension that is not set up to automatically forward calls.
My hold announcement is cut off.	Hold announcements in later versions of Synapse are limited to two minutes.	■ Record your hold announcement again. Keep it under two minutes in length.

System Upgrade

Symptom	Probable Cause	Corrective Action	System Upgrade
A Synapse device becomes sluggish or unresponsive during or immediately after software upgrade.	Cannot connect to AT&T server or the device encountered an unexpected problem.	■ Disconnect the power to the device, wait a few minutes, then reconnect the power and try the upgrade process again.	
During device upgrade one of the following messages appears: “UNKNOWN ERROR Current image version” or “UNKNOWN ERROR”.	A communication error between the devices and the server.	■ If this failure occurred after clicking Update All Devices, power cycle each device that did not get upgraded. Unplug the power cord and plug it back in. As each device reboots, it automatically updates (if it detects updated software in the system). ■ Wait 30 minutes to allow for the device to update. If the system has a very low bandwidth Internet connection, it may take up to 4 hours. ■ If this failure occurred during a manual single-device update, power cycle the device that did not get upgraded. Unplug the power cord and plug it back in. As the device reboots, it automatically updates (if it detects updated software in the system).	

User WebUI

Symptom	Probable Cause	Corrective Action	User WebUI
Unable to access the WebUI Log-in page from my computer.	The computer is not connected to the same subnet (network) as the Deskset, and the subnets are not set up to communicate.	■ Verify the IP address. You must correctly enter the IP address of your Deskset into your Internet browser's address bar. At the Deskset, press **MENU** –> **4** to see the **IP address** displayed in the third line of the information. ■ Ensure that there is an Ethernet cable attached to Network port on the Deskset and to the LAN. If a PC at the same workstation is sharing the LAN connection, attach an Ethernet cable to your computer's Ethernet port and to the PC port on the back of the Deskset. ■ Confirm that your computer and your Deskset are on the same subnet so that they can talk to each other. Check that the first three sections of each IP address are the same. If they are not, they may not be connected to the same subnet. Contact the installer; the subnets may not be set up to communicate.	
	The local address, rather than the network IP address, was used in the address line of the browser.	■ Use the network IP address assigned through DHCP or manually in the address bar of the browser.	
Changes made to System Configuration from the WebUI are not saved.	Apply must be clicked on each page to confirm the changes.	■ Click Apply on each page to confirm the changes.	

PC/Deskset Interaction

Symptom	Probable Cause	Corrective Action	PC/Deskset Interaction
Internet connection or access to the local network on my computer does not work after installing the Deskset.	The Ethernet cords are not installed correctly.	■ Check that the Ethernet cord from the computer is plugged into the Deskset port labeled PC. A second Ethernet cord should be plugged into the Ethernet port on the Deskset marked with the other end plugged into your LAN.	
My PC is slower now that I have connected it to the LAN through the Deskset.	A computer connected through the Deskset will be limited to 100 Mbits/s.	■ Use separate Ethernet connections for the Deskset and the computer so that the computer can take advantage of the network's greater bandwidth.	
My PC, which is connected to the LAN through the Deskset, briefly loses its network connection.	For PCs connected to the LAN through Desksets, disruption to the Deskset operation affects the PC. For example, when the Deskset restarts (possibly due to a software upgrade) the connection to the LAN is temporarily lost.	■ If the PC is connected to the LAN through the Deskset, avoid updating software or restoring the Deskset settings when a user is at the workstation. ■ If the PC is connected to the Deskset, and if the PC is connected to an Uninterruptible Power Supply (UPS), plug the Deskset into a UPS. ■ Use separate Ethernet connections for the Deskset and the computer.	

Other Deskset Features

For more information about the corrective actions recommended in this troubleshooting section, see the SB67030/031 Deskset and Accessories User's Guide and SB67020 Deskset User's Guide at **www.telephones.att.com/synapseguides**.

Symptom	Probable Cause	Corrective Action	Other Deskset Features
Other Desksets do not appear in the extension list.	The Deskset is not connected to the same subnet as the other Desksets.	■ Verify that the first two sections of the IP address (the portion before the second "dot") match the IP addresses of the other Desksets or that the subnets are set up to communicate with each other. Press **MENU** –> **4** at a Deskset to find the IP address. ■ If the other Desksets have been assigned static IP addresses, you may have to assign your Deskset a static IP address to match the other Desksets.	
I am unable to record a greeting.	The selected Deskset is set up to forward all calls.	■ Select a different Deskset to record the greeting. ■ Disable the call forwarding on the selected Deskset. Press CallFwd [**030/031**] or **MENU** –> **1** –> **6** [**020**].	
There is no DistrList key so I cannot forward messages to Distribution list.	The DistrList key is not present unless the Distribution List feature is enabled and the extension user created at least one Distribution List.	■ Log in to the WebUI as a user and click **Voicemail Distribution**. Enable Voicemail Distribution, and create one or more Distribution Lists.	

Symptom	Probable Cause	Corrective Action	Other Deskset Features
My Deskset soft keys have changed.	The highlight bar has moved to another line on the screen.	■ The soft keys reflect the call state and Deskset functions. They change depending on which line is highlighted. For example, there may be a held call, an active call, or an incoming call on the screen. To view the soft keys for that call, move the highlight bar by pressing the △ or ▽ Navigation key.	

Symptom	Probable Cause	Corrective Action	Other Deskset Features
I am unable to add an entry to Quick-Dial list.	If you have an SB67030/031 Deskset, the Quick-Dial list is full — there are six entries available.	■ Edit Quick-Dial entries on the Deskset to write over an existing entry: a. Press the button to the right of Quick Dial. b. Press EditList to add or edit a Quick-Dial entry. ■ Edit Quick-Dial entries on the WebUI to write over an existing entry: a. Log in to the WebUI as a user and click **Quick Dial Keys**. b. Edit the Quick-Dial entries. c. Press Apply.	
	Your SB67030/031 Deskset has been configured for Call Queue and the Quick-Dial key and Quick-Dial list are unavailable.	■ If necessary, configure the Deskset to use Quick Dial instead of Call Queue. See **Feature Keys** under the **Extension Settings** menu. For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.	
	If you have an SB67020 Deskset, you must configure one or more Programmable Function Keys as Quick Dial keys before they can be used.	■ Configure one or more Quick-Dial keys for the Deskset. See **Feature Keys** under the **Extension Settings** menu. For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.	

Symptom	Probable Cause	Corrective Action	Other Deskset Features
I am unable to locate the Cordless Handset from the SB67030/031 Deskset.	The Cordless Handset's battery is dead.	■ Charge the Cordless Handset battery.	
	The Cordless Handset is out of range or not registered.	■ If LocateHS does not appear on the Deskset Idle screen, then the Cordless Handset is not registered. Register the Handset at the Deskset. Press **MENU** –> **2** –> **6** –> **1** –> Register.	
	You deregistered the Cordless Handset on the Handset, but the Deskset still indicates it is registered.	■ Deregister the Cordless Handset on the Deskset. On the Deskset, press **MENU** –> **2** –> **6**. If the Handset is registered, the screen indicates **1. Handset (Registered)**. Press **1** –> DeReg to deregister the Handset.	
Cannot make or receive phone calls on the T1 channels.	Incoming or outgoing calls using the T1 trunk are attempted before the SYN/ACT LED is **GREEN**.	■ Press the **RESET** button on the front panel of the T1 Gateway for less than 5 seconds. ■ Wait for the SYN/ACT LED to turn **GREEN** before making or receiving any T1 calls or receiving calls on the T1 Gateway.	

SB67050 Analog Terminal Adapter

General Troubleshooting

Symptom	Probable Cause	Corrective Action — ATA General Troubleshooting
ATA does not work at all. The Power LED is off.	There is no power to the device.	■ Ensure the AC plug is plugged into an electrical outlet not controlled by a wall switch. ■ Verify that the AC power outlet has power. Plug in a lamp. If the lamp won't light, contact an electrician or use another power outlet. ■ Verify that the DC plug is a 12V 1500mA adapter and plugged into the power jack marked DC 12V ⊙⊂⊕ on the front of the ATA.
ATA screen displays **Network Down**.	The Ethernet cable is unplugged.	■ Ensure that one end of the Ethernet cable is plugged into the port marked LAN on the front of the ATA and that the other end is plugged into your office LAN. ■ Confirm that the Ethernet port light next to the Ethernet port on the ATA is green. If it is not, unplug the cable and plug it in again.
	There may be a problem with the office network.	■ Check if other network devices, such as computers, are communicating with the network. If not, then contact your IT administrator.

Symptom	Probable Cause	Corrective Action	ATA General Troubleshooting
ATA screen displays **Synch Failed**.	The ATA was disconnected, then reconnected after configuration changes were made to the system.	■ See *"Reintroducing a Gateway or ATA Into the System" on page 154*.	
	The ATA was configured on another network or has returned to the Synapse system after being deleted from the system.	■ Reset to factory defaults by using a paper clip to press and hold the reset button (located on the front of the unit) for more than five seconds. See *"Reintroducing a Gateway or ATA Into the System" on page 154*.	
ATA is not active immediately after a power interruption.	The ATA needs time to restore service.	■ Allow at least 30 seconds for the ATA to boot up again after a power failure.	

Music on Hold (MoH)

Symptom	Probable Cause	Corrective Action ATA Music on Hold
Music on Hold (MoH) is not playing and the AUX IN LED is OFF.	MoH is disabled.	■ Log in to the WebUI as administrator, click **System Settings**, then **Hold Settings**. Set **Select Port** to be **ATA: AUX IN** and then click Apply .
MoH is not playing and the AUX IN LED is solid RED, but MoH is enabled in the WebUI.	MoH not properly connected and no connected equipment is detected in AUX IN.	■ Verify that an audio source is connected to AUX IN on the ATA and power is applied.
MoH audio is interrupted.	Hold Announcement is enabled.	■ The Hold Announcement is a feature that repeats a recorded audio clip at regular intervals during MoH. For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.
My audio player jack is not the same size as the supplied audio cable.	Your audio device does not have a 3.5mm audio out jack.	■ Use a different audio cable with ends to fit your audio device and the 3.5mm AUX IN jack on the ATA. CAUTION *Do not exceed the ATA AUX IN input specifications. Grossly exceeding these specifications can damage the ATA. See "Appendix A: Technical Specifications" on page 202.*

Symptom	Probable Cause	Corrective Action	ATA Music on Hold
MoH is not playing and the AUX IN LED is GREEN.	MoH not properly configured.	■ Verify that the audio source is playing and not muted. ■ Set the MoH output volume level by adjusting the playback volume of the music source device connected to the ATA. You may need to set the volume near the maximum. ■ Some MoH sources without volume controls, such as those with audio-out jacks, are usually very loud and might be too loud. ■ Synapse limits the volume of the sound delivered to the phone line. Because of this, there may be audio clipping (missing sounds) for some sources. ■ Some forms of music do not play well over a telephone line. ■ Verify that the audio source meets the electrical specifications for ATA AUX IN. *See "Appendix A: Technical Specifications" on page 202.* ■ Verify that Hold Announcement is not playing a silent message. For more information, see the Synapse Administrator's Guide at **www.telephones.att.com/synapseguides**.	

Symptom	Probable Cause	Corrective Action — ATA Music on Hold
MoH audio is too quiet, fluctuating, or dropping out.	The volume on the audio source is too low or too high. If the volume is too high, overdriving the audio components may be causing short periods of sound to drop out (not be heard).	■ If you can adjust the output volume of your audio source (like the headset jack of an MP3 player), call into your Synapse system, place the call on hold, listen to MoH on the outside line, and adjust the audio volume on your audio source up or down until the best sound quality is achieved. ■ If your audio source does not have adjustable volume, such as the AUX OUT on a radio, verify that the audio source meets the electrical specs for ATA AUX IN. *See "Appendix A: Technical Specifications" on page 202.* ■ If you created a recording to use as the audio source, try to adjust the recording volume by speaking louder or speaking closer to the microphone. ■ Please note that some types of music sound better then others when played across a telephone line. For example, classical music with extreme volume fluctuations may not sound very good when used as MoH.
	Use of audio source outputs whose levels are not adjustable, such as RCA "Line Out" may result in unacceptable background music levels and should not be used.	■ Use an audio source with output volume control. CAUTION *Do not exceed the ATA AUX IN input specifications. Grossly exceeding these specifications can damage the ATA. See "Appendix A: Technical Specifications" on page 202.*

Overhead Paging (OHP)

OHP General Troubleshooting

Symptom	Probable Cause	Corrective Action	ATA OHP General Troubleshooting
Overhead paging (OHP) is not working.	You don't know whether your OHP is single- or multi-zone and whether it needs an FXS or an Audio-Out connection.	■ There are three possible configurations for OHP: • Single-zone paging connected to the AUX OUT jack. • Single-zone paging connected to one of the two FXS ports. • Multi-zone paging connected to one of the two FXS ports. ■ Select the appropriate configuration for your specific paging equipment. *See "Overhead Paging Overview" on page 22*. ■ Refer to your OHP product documentation and the respective troubleshooting section below. The paging equipment, the jack it is plugged into, and the WebUI must all match.	

Symptom	Probable Cause	Corrective Action	ATA OHP General Troubleshooting
Overhead paging (OHP) is not working. *(Continued)*	The OHP may not be properly installed.	■ For OHP equipment connected to an FXS port, verify WebUI configuration: a. Connect a corded phone to the FXS port configured for paging and verify that the phone rings when it is paged. b. If the phone does not ring, there is a problem with the WebUI configuration or the installation at the ATA. c. If the phone rings, the configuration allows communication with the OHP. Verify your paging equipment. Does it have power? Is it turned on? ■ For OHP equipment connected to the **AUX OUT** port, verify the correct cable connections. See *"Connecting an Overhead Paging System (OHP)" on page 55*. Refer to your paging equipment documentation if there are still problems.	
I cannot add a multi-zone Paging Zone to other Paging Zones.	Multi-zone paging does not allow a combination of OHP equipment and Desksets within one Paging Zone.	■ Page multi-zone OHP zones separately from extensions.	
Unable to make phone calls on the extension configured for the FXS OHP jack.	System limitation.	■ Once an FXS is configured for OHP, it cannot be used for audio calls, nor will it receive voice calls.	

Single-Zone OHP Connected to AUX OUT Jack

Symptom	Probable Cause	Corrective Action	ATA Single-Zone OHP to AUX OUT Jack

For OHP equipment connected to the AUX OUT jack, this Troubleshooting refers to the ATA front-panel AUX OUT LED. This describes the behavior of these LEDs:

- **OFF**: There is a problem with the WebUI configuration for OHP. Either **Paging** is disabled, or the selected **Paging Port** is not AUX OUT.
- **RED**: Although the WebUI supports OHP, no connection is detected.
- Steady **GREEN**: The WebUI is configured for OHP on AUX OUT, it is enabled, and the ATA has detected that a cable is connected.
- Flashing **GREEN**: An OHP is in progress.

We also use these LEDs to help diagnose problems.

Single-zone OHP on AUX OUT is not working and the AUX OUT LED is **OFF**.	The OHP is not configured in the WebUI for use on AUX OUT.	■ Verify the Single-Zone on AUX OUT WebUI configuration: a. Log in to the WebUI as administrator, click **System Settings**, then **Overhead Paging**. b. Verify that **Paging** is **Enabled**. If not, select **Enable**. c. Verify that the **Paging System Type** is set to **Single Zone**. d. Verify that **Select Paging Port** is set to **AUX OUT** and that your OHP system is physically plugged into the AUX OUT jack. e. Click Apply
	The OHP is not a member of a Paging Zone.	■ Verify that the OHP equipment is part of the Paging Zone that you are trying to page. *See "Paging Zones" on page 126.*

Symptom	Probable Cause	Corrective Action — ATA Single-Zone OHP to AUX OUT Jack
Single-zone OHP on AUX OUT is not working and AUX OUT LED is solid **RED**.	The OHP is configured for use, but no connector is detected in the jack.	■ Verify that your paging equipment is connected to AUX OUT. If not, connect it, or change the OHP configuration in the WebUI if your OHP equipment is intended to be connected to an FXS port. For background information and configuration instructions, see *"Overhead Paging Overview" on page 22*.
Single-zone OHP on AUX OUT is not working and the AUX OUT LED is solid **GREEN** and the WebUI is configured for paging through the AUX OUT jack.	The ATA has detected a cable connected to the AUX OUT jack. There may be a problem with your paging equipment or its configuration.	■ Refer to your OHP product documentation for installation and configuration instructions. ■ To isolate OHP-related problems, connect PC speakers to the AUX OUT jack configured for paging. If the page is broadcast through the speakers when paged, refer to the documentation that came with your OHP. ■ Verify your paging equipment configuration. Check to see if the OHP system has settings that need to be adjusted to work with Synapse. Refer to your paging equipment documentation or to your VAR.
Single-zone OHP on AUX OUT is not working and the AUX OUT LED is flashing **GREEN**.	Paging is active (a user on the system is paging the OHP system). There may be a problem with the paging equipment or its setup.	■ Verify your paging equipment configuration. Check to see if the OHP system has settings that need to be adjusted to work with Synapse. Refer to your paging equipment documentation or to your installer.

Symptom	Probable Cause	Corrective Action	ATA Single-Zone OHP to AUX OUT Jack
In single-zone paging, paging starts on Desksets before the paging starts on the OHP system.	Paging delay is too short.	■ Verify that the **Paging Delay** is set to an appropriate delay to work with your OHP system. a. Log in to the WebUI as administrator, click **System Settings**, then **Overhead Paging**. b. Set the **Paging Delay**. c. Click Apply .	

Single-Zone OHP Connected to an FXS Port

Symptom	Probable Cause	Corrective Action	ATA Single-Zone OHP to an FXS Port

For OHP equipment connected to an FXS port, this Troubleshooting refers to the ATA front-panel FXS LED for the FXS port you are using for the OHP equipment. When the equipment is properly installed, and everything is configured correctly, this is the behavior of these LEDs:

- **OFF**: There is no paging activity.
- Flashing **GREEN**: A user has initiated a page.
- Solid **GREEN**: A device other than an OHP (such as a fax machine) is connected to the FXS port and has gone off hook.

We also use these LEDs to help diagnose problems.

Single-zone OHP on FXS is not working.	The OHP may not be properly installed.	■ Test basic OHP functionality. a. Connect a corded phone to the FXS port configured for paging. b. Page all extensions and verify that the phone rings when paged. c. If the phone does not ring, there is a problem with the WebUI configuration or the installation at the ATA. d. If the phone rings, the configuration allows communication with the OHP, verify your paging equipment: □ Does it have power? Is it turned on? □ Refer to your paging equipment documentation if there are still problems.

Symptom	Probable Cause	Corrective Action	ATA Single-Zone OHP to an FXS Port
Single-zone OHP on FXS is not working. (*Continued*)	There may be a problem with the paging equipment or its setup.	■ Verify your paging equipment configuration. Check to see if the OHP system has settings that need to be adjusted to work with Synapse. Refer to your paging equipment documentation or to your installer.	
	There may be a problem with the connection between the FXS port and the OHP system.	■ Verify that your paging equipment is connected to **FXS 1** or **FXS 2**. If not, connect it, or change the OHP configuration in the WebUI if your OHP equipment is intended to be connected to the AUX OUT jack. For background information and configuration instructions, see *"Overhead Paging Overview" on page 22*. ■ Verify the Single-Zone on FXS WebUI configuration: a. Log in to the WebUI as administrator, click **System Settings**, then **Overhead Paging**. b. Verify that **Paging** is set to **Enable**. c. Verify that the **Paging System Type** is set to **Single Zone**. d. Verify that **Select Paging Port** is set to **FXS 1** or **FXS 2** and that your OHP system is physically plugged into the FXS port with the same number. e. Click Apply .	
	There may be a problem with the Paging Zone setup.	■ Verify that the Paging Zone you are paging includes **Overhead Page**.	

Symptom	Probable Cause	Corrective Action — ATA Single-Zone OHP to an FXS Port
Single-zone OHP on FXS is not working and the FXS LED for the FXS port that is used for the OHP equipment is solid **GREEN**.	A device other than an OHP (such as a fax machine) is connected to the FXS port and has gone off hook.	■ Ensure that the OHP is connected to the correct ATA port. ■ Refer to your OHP product documentation for installation and configuration instructions. ■ Verify WebUI configuration (see *"Verify the Single-Zone on FXS WebUI configuration:" on page 190*).
Single-zone OHP on FXS is not working and the FXS LED for the FXS port that is used for the OHP equipment is **OFF**.	No signal is detected.	■ There is no signal when no one is paging or the FXS ports are not configured for overhead paging. ■ Verify that your paging equipment is connected to **FXS 1** or **FXS 2**. If not, plug it in, and verify your OHP equipment connections.
	The OHP is not a member of a Paging Zone.	■ See *"Paging Zones" on page 126*.
In single-zone paging, paging starts on Desksets before the paging starts on the OHP system.	Paging delay is too short.	■ Verify that the **Paging Delay** is set to an appropriate delay to work with your OHP system. a. Log in to the WebUI as administrator, click **System Settings**, then **Overhead Paging**. b. Set the **Paging Delay**. c. Click Apply .

Multi-Zone OHP Connected to an FXS Port

Symptom	Probable Cause	Corrective Action	ATA Multi-Zone OHP to an FXS Port

For OHP equipment connected to an FXS port, this Troubleshooting refers to the ATA front-panel FXS LED for the FXS port you are using for the OHP equipment. When the equipment is properly installed, and everything is configured correctly, this is the behavior of these LEDs:

- **OFF**: There is no paging activity.
- Flashing **GREEN**: A user has initiated a page.
- Solid **GREEN**: A device other than an OHP (such as a fax machine) is connected to the FXS port and has gone off hook.
- We also use these LEDs to help diagnose problems.

With multi-zone paging, paging all extensions does not broadcast over my OHP equipment.	Multi-zone OHP can not be paged at the same time as Desksets.	■ To page the OHP, the user must select **Overhead Paging** from the Paging Zones selection screen on the Deskset. Selecting any other zone will not page the OHP system, even if the Paging Zones did include **Overhead Paging** prior to changing the **Paging System Type** to multi-zone.
Multi-zone OHP is not working.	Inconsistent configuration.	■ Verify the Multi-Zone WebUI configuration: a. Log in to the WebUI as administrator, click **System Settings** –> **Overhead Paging**. b. Verify that **Paging** is set to **Enable**. c. Verify that the **Paging System Type** is set to **Multi Zone**. d. Verify that **Select Paging Port** is set to an FXS port and that your OHP system is physically plugged into that FXS port. e. Click Apply .

Symptom	Probable Cause	Corrective Action	ATA Multi-Zone OHP to an FXS Port
Multi-zone OHP is not working. *(Continued)*	The OHP can not be paged at the same time as the Desksets.	■ Page the Desksets and OHP separately.	
	There may be a problem with the paging equipment or its setup.	■ Verify your paging equipment configuration. Check to see if the OHP system has settings that need to be adjusted to work with Synapse. Refer to your paging equipment documentation or to your installer.	
	There may be a problem with the Paging Zone setup.	■ Verify that the Paging Zone you are paging is **Overhead Paging**.	
	There may be a problem with the connection between the FXS port and the OHP system.	■ Verify the connection between the FXS port and your OHP system. For background information and configuration instructions, see *"Overhead Paging Overview" on page 22*.	
Multi-zone OHP is not working and the FXS LED for the FXS port that is used for the OHP equipment is **OFF**.	No signal is detected.	■ There is no signal when no one is paging. ■ Verify that your paging equipment is connected to **FXS 1** or **FXS 2**. If not, connect it, and check your OHP equipment connections.	
	Inconsistent configuration.	■ Verify the WebUI configuration. See *"Verified Overhead Paging Devices" on page 26*.	
Multi-zone OHP is not working and the FXS LED for the FXS port that is used for the OHP equipment is solid **GREEN**.	A device other than an OHP (such as a fax machine) is connected to the FXS port and has gone off hook.	■ Refer to your OHP product documentation for installation and configuration instructions. ■ Verify the WebUI configuration. See *"Verified Overhead Paging Devices" on page 26*.	

Symptom	Probable Cause	Corrective Action	ATA Multi-Zone OHP to an FXS Port
Multi-zone OHP is not working and the FXS LED for the FXS port that is used for the OHP equipment is flashing **GREEN**.	Someone has initiated a page, but the OHP equipment has not yet acknowledged the page request.	■ Verify the connection between the FXS port and your OHP system. See *"Overhead Paging Overview" on page 22*. ■ Verify your paging equipment configuration. Check to see if the OHP system has settings that need to be adjusted to work with Synapse.	

Fax Configuration

Symptom	Probable Cause	Corrective Action	ATA Fax Configuration
While using T.38 mode, unable to receive faxes or having persistent fax transmission failures.	Incompatible Fax Mode setting.	■ Change the Fax Mode setting: a. Log in to the WebUI as administrator, click **System Settings**, then **Fax Configuration**. b. Set **Fax Mode** to **G.711**. c. Click Apply .	
While using T.38 mode, fax usually works with occasional failures.	Network impairment issues.	■ Resend the fax later or use the fax machine's retransmission feature.	
While using G.711 mode, fax usually works with occasional failures.	Network impairment issues.	■ Resend the fax later or use the fax machine's retransmission feature. ■ If the above does not work, try changing the Fax Mode setting. a. Log in to the WebUI as administrator, click **System Settings**, then **Fax Configuration**. b. Set **Fax Mode** to **T.38**. c. Click Apply .	

Symptom	Probable Cause	Corrective Action	ATA Fax Configuration
The fax is not working and the FXS 1 or FXS 2 LED that corresponds to the jack you are using for connecting the fax machine is **OFF** when the fax is attempting to send or receive a fax.	The Gateway and the fax are not communicating.	■ Verify the connection between the FXS port and your fax machine. For background information and configuration instructions, see *"Overhead Paging Overview" on page 22*. ■ Verify the fax configuration on the WebUI: a. Log in to the WebUI as administrator, click **System Settings**, then **Fax Configuration**. b. Verify that **Fax** is set to **Enable** and that **Fax Mode** is set to the appropriate setting. See *"Fax Overview" on page 118*. c. Verify that **Fax Destination** is set to the appropriate ATA FXS port and that the fax machine is physically connected to that jack. d. Verify that **Fax Line** is set to the correct Gateway line. Verify that the physical outside line on which incoming faxes are received is connected to the chosen **Fax Line** on the Gateway. If not, outgoing faxes will work but incoming faxes will be directed to the Auto Attendant instead of being directed to the fax. e. Click Apply . f. Make sure the fax machine has power and is turned on.	
The fax is not working and the FXS LED that corresponds to the jack you are using for connecting the fax machine is solid **GREEN**.	The FXS port is configured for fax, and a phone connected to the FXS port is off hook.	■ Verify the fax machine settings.	

Symptom	Probable Cause	Corrective Action	ATA Fax Configuration
The fax is not working and the FXS LED that corresponds to the jack you are using for connecting the fax machine is flashing **GREEN**.	The ring voltage is present but your FXS configuration may be wrong.	■ Change the **Fax Mode**: a. Log in to the WebUI as administrator, click **System Settings**, then **Fax Configuration**. b. Change the **Fax Mode** setting, then click Apply . The default **Fax Mode** is G.711. If the fax fails to work in G.711 mode, change it to T.38.	
The fax machine is connected to the telephone line through the Synapse system and the FXS LED indications appear correct, yet outgoing faxes fail.	Number dialed incorrectly.	■ To send faxes, ensure that you enter a **9** or whatever digit, if any, that must be dialed first for an outside call. For example, **9-1-555-0123**	
Unable to receive incoming faxes.	Fax line not configured properly.	1. Log in to the WebUI as administrator, click **System Settings**, then **Fax Configuration**. 2. Verify that **Fax Line** is set to the correct line. 3. Verify that the physical outside line on which incoming faxes are received is connected to the chosen **Fax Line** on the Gateway. If not, outgoing faxes will work but incoming faxes will be directed to the Auto Attendant instead of being directed to the fax. 4. Click Apply .	

Symptom	Probable Cause	Corrective Action	ATA Fax Configuration
Unable to make phone calls on the telephone that is part of my fax machine.	System limitation.	■ Once an FXS is configured for fax, its integrated telephone cannot be used for audio calls. If the fax machine has a corded handset, it will not receive voice calls, and even though a user may get a dial tone, dialing out is not possible.	

Analog Phone

Symptom	Probable Cause	Corrective Action	ATA Analog Phone
Analog phone connected to FXS port does not work as expected.	The WebUI configuration is incorrect.	■ Verify that your telephone is connected to FXS 1 or FXS 2. If not, plug it in, or change the analog telephone configuration in the WebUI. Verify that your phone is connected to the correct FXS port and that phone is powered on. a. Log in to the WebUI as administrator, click **ATA Settings**. b. Verify that the desired FXS port has a **Voice** assignment. If not, try connecting the analog telephone to the other FXS port or disable the other assignment. **Voice** is the default setting when no other assignments are enabled: If the desired FXS port is assigned to **Fax**: a. Click **System Settings**, then **Fax Configuration**. b. Set **Fax** to **Disable**. c. Click Apply . If the desired FXS port is configured for **Overhead Paging**: a. Click **System Settings**, then **Overhead Paging**. b. Set **Paging** to **Disable**. c. Click Apply .	

Symptom	Probable Cause	Corrective Action	ATA Analog Phone
Analog phone connected to FXS port does not work as expected.	Analog phone is working with Synapse, but does not have Deskset capabilities.	■ Consider the analog phone limitations: • To make outgoing calls on an analog phone connected to the FXS port on the ATA, the outside phone number must be preceded by **9** or whatever digit, if any, that must be dialed first for an outside call (same as on a Deskset). • The analog phone connected to the FXS port on the ATA can pick up incoming calls and make outgoing calls. Idle, Ringing, Dial, caller ID, and Active states are all supported, but advanced features such as Call Waiting, Call Forward, Hold, Transfer, DND, Paging, Park, and Voicemail are not supported on analog phones.	

Group Mailbox

Symptom	Probable Cause	Corrective Action ATA Group Mailbox
Group Mailbox does not work.	Needs an ATA to be available.	■ Group Mailboxes reside on the ATA. The ATA must be connected. See *"SB67050 ATA Installation" on page 52*.
Group Mailbox is full even though it has not reached quota.	The sum of the quotas for individual Group Mailboxes may exceed 60 minutes or some Group Mailboxes do not have quotas enabled. In other words, quotas do not reserve recording time for a given Group Mailbox. Quotas only limit the maximum amount of recording time available for a Group Mailbox.	■ The ATA allows for a total of 60 minutes of recording time for all Group Mailboxes. You can assign quotas for individual Group Mailboxes. Note that the sum of the quotas for individual Group Mailboxes may exceed 60 minutes. • To free additional recording time for a Group Mailbox, delete messages on any of the Group Mailboxes. • To prevent this problem from occurring again, reduce quotas to add up to 60 minutes or less, and make sure that all Group Mailboxes have quotas enabled. • Note that personal messages reside on the specific desksets and do not affect Group Mailboxes recording time.
Unable to find a message.	Group Mailboxes are accessed by multiple users.	■ None. Another user may have deleted the message you are looking for.
The number of new messages changed spontaneously.	Group Mailboxes are accessed by multiple users.	■ None. Another user may have listened to the new messages or cleared "New" indicators from messages.

Appendix A: Technical Specifications

Table 5 lists the technical specifications for the SB67010 PSTN Gateway, SB67060 T1 Gateway, SB67050 ATA, SB67030 Deskset, SB67031 Deskset, SB67020 Deskset, and SB67040 Cordless Handset.

Table 5. Technical Specifications

Feature	Specification
Frequency control	Crystal controlled PLL synthesizer
Transmit Frequency	Deskset, Cordless Handset, Cordless Headset: 1921.536–1928.448 MHz
	Deskset: 1921.536–1928.448 MHz
Nominal Effective Range	Maximum power allowed by FCC (Federal Communications Commission) and IC (Industry Canada). Actual operating range might vary according to environmental conditions at the time of use.
Voice Channels	Deskset, Cordless Handset, Cordless Headset: 5
Size	Cordless Handset: 6.9" × 1.8" × 1.4" (H × W × D)
	SB67020 Deskset: 6.9" × 7.9" × 8.1" (H × W × D @ 57° angle), 7.9" × 7.9" × 7.1" (H × W × D @41° angle)
	SB67030/031 Deskset: 8.2" × 8.9" × 6.5" (H × W × D)
	Gateways and ATA: 1.8" × 13.5" × 7.9" (H × W × D)
Weight	PSTN Gateway: 88.18 oz. (2500 g) (including adapter)
	T1 Gateway: 63.5 oz. (1800 g) (including adapter)
	ATA: 63.5 oz (1800 g) (including adapter)
	SB67020 Deskset: 35.59 oz. (1009 g) (including adapter)
	SB67030/031 Deskset: 59.96 oz. (1700 g) (including adapter)
	Cordless Handset: 7.05 oz. (200 g) (including battery)

Table 5. Technical Specifications (Continued)

Feature	Specification
Power Requirements	PSTN Gateway: 5.1 V DC @ 1700 mA T1 Gateway and ATA: 12 V @ 18 Watts SB67020 and SB67030/031 Deskset: 5.1 V DC @ 1700 mA (AC Adapter) SB67020 Deskset: PoE Class 2 SB67031 Deskset: PoE Class 3 Cordless Handset, Cordless Headset chargers: 6 V DC @ 200 mA Cordless Handset: 2.4 V 550 mA Ni-MH battery Cordless Headset: 3.7 V 240 mAH battery
RJ-45 Ethernet Network Jack	(10Base-T/100Base-Tx) with auto MDI/MDIX switching
PSTN Gateway Telephone Jacks	1–4 and BYPASS (FXO ports) use traditional 2-conductor wiring
T1 Jack	RJ48C jack on the supplied T1 cable: Pin 1: R pair, RX-Ring Pin 2: T pair, RX-Tip Pin 4: R1 pair, TX-Ring Pin 5: T1 pair, TX-Tip
Gateway BYPASS	26 mA loop current; REN 5; 100 m max loop length
LAN Cable	Cat.-5 standard cable, except the T1 Gateway, which uses a standard Cat.-6 LAN cable

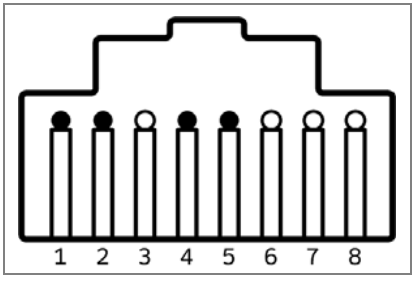


Figure 162. T1 Jack Pinouts

Table 5. Technical Specifications (Continued)

Feature	Specification
[T1] T1 Port	RJ48C standard T1 interface
	The T1 Gateway provides ITU G.168 compliant hardware-based echo cancellation.
[ATA] FXS	26 mA loop current; REN 5; 100 m max loop length
[ATA] AUX In	3.5 mm Tip (Signal), Ring (NC) Sleeve (Ground) (TRS) jack
	Frequency range 300 to 3.4 KHz
	Input level -15 dBm nominal
	Impedance greater than or equal to 10 K ohms input
	AC coupling
[ATA] AUX Out	3.5 mm Tip (Signal), Ring (NC) Sleeve (Ground) (TRS) jack
	Frequency range 300 to 3.4 KHz
	Output level -15 dBm nominal
	Output impedance less than or equal to 8 ohms
	AC coupling
Deskset Headset	Traditional corded handset jack type with 2-conductor wiring

Appendix B: Default Settings

Table 6 through Table 9 list the default settings for the Synapse system, Deskset, SB67040 Cordless Handset, and SB67050 ATA.

Table 6. System Default Settings

Parameter	Selection	Default
Admin Password	4 through 6 digits	12345
Administrator Login Name	16 characters max	Admin
Auto Attendant Day Start	12-hour clock	8:00AM
Auto Attendant Digit Assignment (1–9, *, #)	None, Replay, Directory, Previous Menu, Main Menu, Default Menu, (user created)	None
Auto Attendant Enable Direct Dial	On, Off	On
Auto Attendant Enable Operator	On, Off	On
Auto Attendant Main Day, Night, and Lunch Menu	Default Menu, User Created Menu	Default Menu
Auto Attendant Night Start	12-hour clock	5:00PM
Backup/Restore Settings	All extensions	Nothing
Call Forward Unconditional	On, Off	Off
Call Forward Unconditional Target Type	Voicemail, Extension	Voicemail
Call Forward-No Answer	On, Off	On
Call Forward-No Answer Extension Number	200 through 299	Nothing
Call Forward-No Answer Seconds Before Forwarding	5 though 45	15
Call Forward-No Answer Target Type	Voicemail, Extension	Voicemail
Call Forward-No Answer Telephone Number	32 Digits Maximum	Nothing
Delete Extension	All extensions	Nothing
Directory First and Last Name Fields	20 Digits Maximum	Nothing
Directory Number Field	32 Digits Maximum	Nothing
Directory Sort	First Name, Last Name	First Name

Table 6. System Default Settings (Continued)

Parameter	Selection	Default
Display First and Last Name	16 characters maximum	Nothing
Enable Auto Attendant	Scheduled, Manual, Off	Manual
Hold message: Extension for Recording	All extensions	Nothing
Operator Extension	All extensions	200
Ring Group No Answer Target Extension	All extensions	0
Ring Group Seconds Before Forward	1 through 60 Seconds	15
System Time/Date Option	NTP Server, Custom Server, Manual	NTP Server
Timer for Forwarded and Transferred Outside Calls	15 through 120 (in 5-minute increments)	30
User Password	6 digits maximum	Nothing

Table 7. Deskset Default Settings

Parameter	Selection	Default
Backlight	Hi, Lo, Off	Hi
Call Forward All Target	Ext, Mailbox, Phone #	Mailbox
Call Forward–No Answer Delay	5 through 45 (in 5-second increments)	15
Call Forward–No Answer Target	Mailbox, Ext, Phone #, OFF	Mailbox
Call Forward/Trans to outside line	Enabled/Disabled	Enabled
Contrast	1 through 9	5
Current Greeting	Primary, Alternate, Pre-Set	Pre-Set
Current Name	Personal, Pre-Set	Pre-Set
Date and Time (when server is not available)		12:00PM, January 1, 2009
Directory List	All, Personal, System, Extension	All
First Name/Last Name toggle	First Name, Last Name	First Name
Handset	Registered, Not Registered	Not Registered
Headset	Registered, Not Registered	Not Registered
IP Configuration	Auto, Static	Auto
Key Beeps	On, Off	On
Preferred Audio Mode	Speakerphone, Headset	Speakerphone
Ring Volume	0 through 9	3
Ringtones	1 through 9	1
User Password	0 through 6 Digits	Nothing

Table 8. [Handset] Default Settings

Parameter	Selection	Default
Contrast	1 through 9	5
Key Beeps	On, Off	On
Ring Volume	0 though 9	3
Ringtones	1 though 9	1

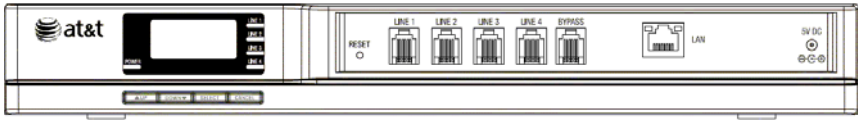
Table 9. [ATA] Default Settings

Parameter	Selection	Default
AUX IN	Enable, Disable	Disable
AUX OUT	Enable, Disable	Disable
Fax Enable	Enable, Disable	Disable
Fax Mode	G.711, T.38	G.711
Fax Destination	FXS 1, FXS 2	None. “Select a Fax Port” appears
Fax Line	Line 1, 2, 3, 4, T1 DID numbers	None. “Select a Fax Line” appears
FXS 1	Voice, Fax, OHP	Voice
FXS 2	Voice, Fax, OHP	Voice
Group Mailbox Greeting	Pre-Set, Custom	Pre-Set
Group Mailbox Quota	Enable, Disable	Disable
IP Address	Auto (DHCP), Static	Auto (DHCP)
Music on Hold Port	AUX IN	None. “Select a Port” appears
Overhead Paging Delay	0 though 5	0
Overhead Paging Enable	Enable, Disable	Disable
Overhead Paging Port	FXS 1, FXS 2, AUX OUT	None. “Select a Port” appears
Overhead Paging System Type	Single Zone, Multi Zone	Single Zone

Appendix C: Part Lists

SB67010 PSTN Gateway Parts List

Figure 163 illustrates the PSTN Gateway parts.

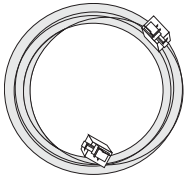


SB67010 PSTN Gateway

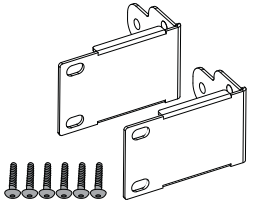
Grounding Cable

Power Adapter

Four Phone Cords



Cat.-5 Ethernet LAN Cable (Gray)



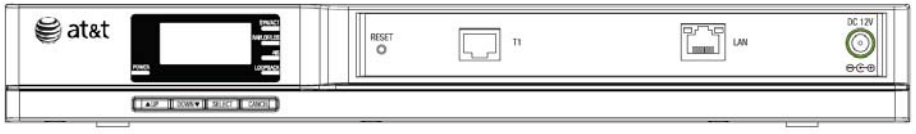
Mounting brackets and screws

Important Product Information

Figure 163. PSTN Gateway Parts List

SB67060 T1 Gateway Parts List

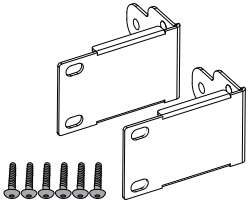
Figure 164 illustrates the T1 Gateway parts.



SB67060 T1 Gateway

Power Adapter and Cord (Green tag)

Cat.-6 Ethernet LAN Cable (Yellow)



Mounting brackets and screws

T1 Cable (Black)

Important Product Information

Figure 164. T1 Gateway Parts List

SB67020 Deskset Parts List

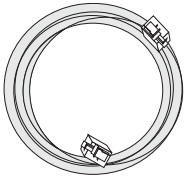
Figure 165 illustrates the Deskset parts.

SB67020 Deskset Base

Deskset Stand

Handset

Power Adapter (Blue Tag)



Cat.-5 Ethernet LAN Cable (Gray)

Handset Cord

Quick Start Guide

Important Product Information

Figure 165. SB67020 Deskset Parts List

SB67030/031 Deskset Parts List

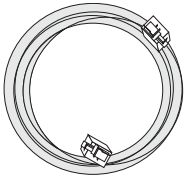
Figure 166 illustrates the Deskset parts.

Deskset Base

Deskset Stand

Handset

Power Adapter (Blue Tag)



Cat.-5 Ethernet LAN Cable (Gray)

Handset Cord

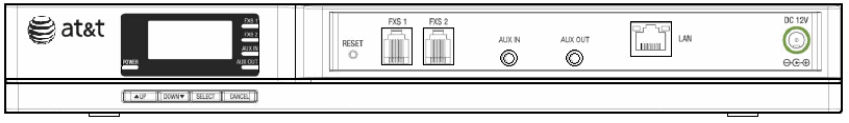
Quick Start Guide

Important Product Information

Figure 166. SB67030/031 Deskset Parts List

SB67050 Analog Terminal Adapter (ATA) Parts List

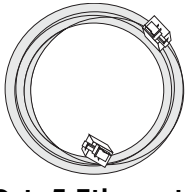
Figure 167 illustrates the ATA parts.



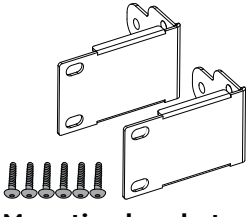
SB67050 Analog Terminal Adapter (ATA)

Auxiliary Audio Cable

Power Adapter and Cord (Green tag)



Cat.-5 Ethernet LAN Cable (Gray)



Mounting brackets and screws

Two Phone Cords

Important Product Information

Figure 167. ATA Parts List

SB67040 Cordless Handset Parts List

Figure 168 illustrates the Cordless Handset parts.

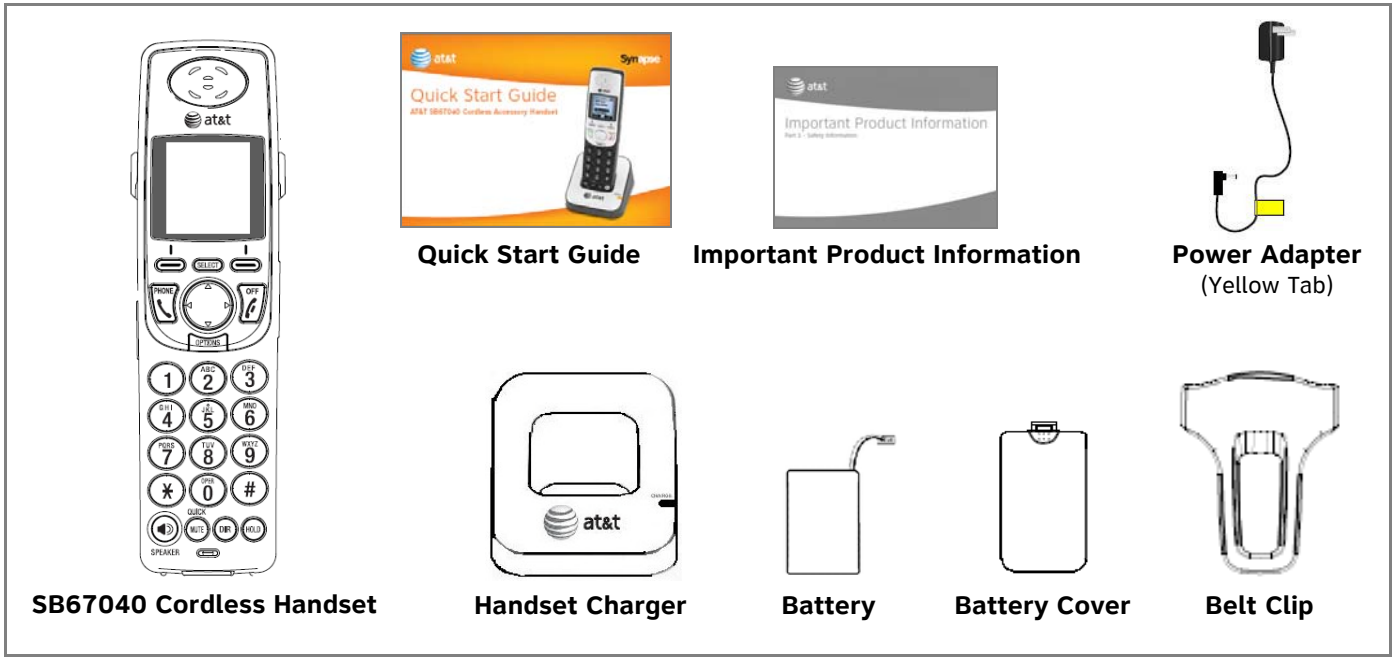


Figure 168. Cordless Handset Parts List

TL7600 Cordless Headset Parts List

Figure 169 illustrates the TL7600 Cordless Headset parts.

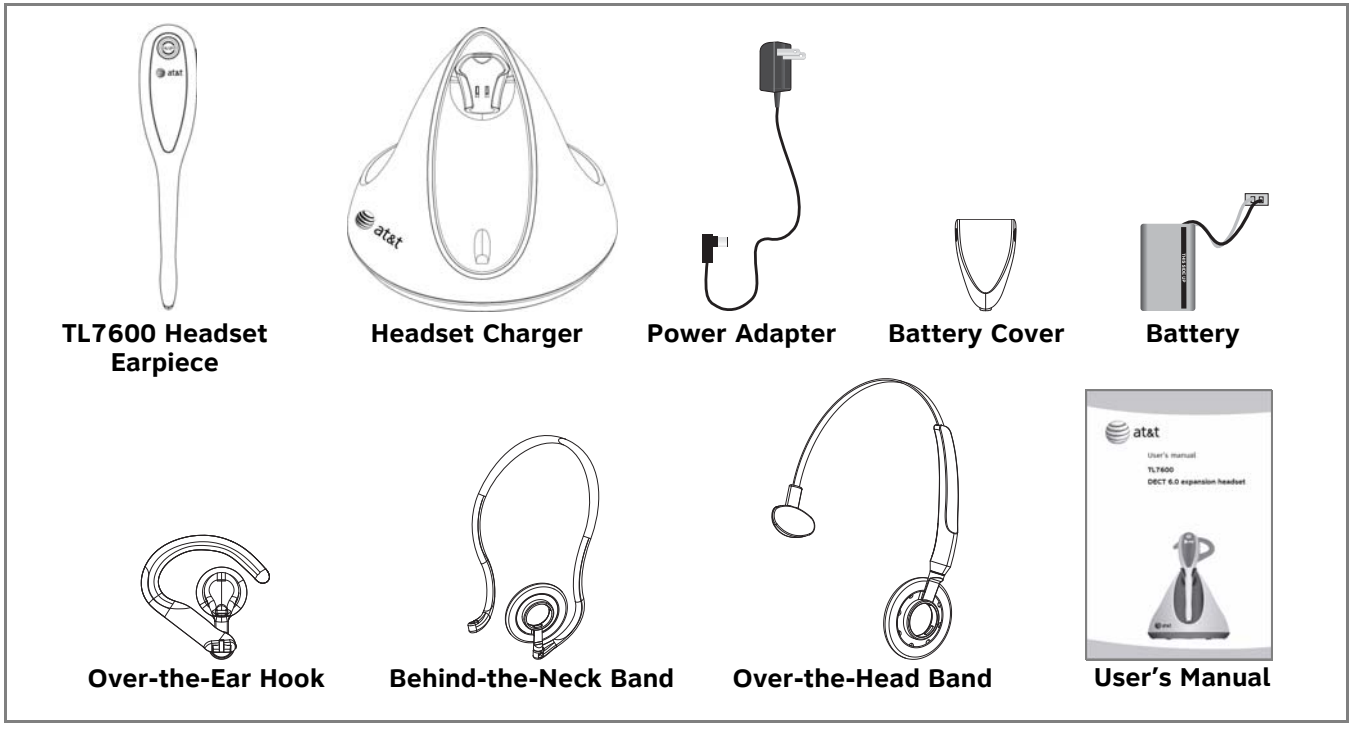


Figure 169. TL7600 Cordless Headset Parts List

NOTE The process for registering the TL7600 Cordless Headset with the SB67030/031 Deskset is different than the registration process described in the TL7600 User's manual that comes in the box with the Cordless Headset.

Use the registration process described in "Registering an Optional Cordless Headset" in the SB67030/031 Deskset and Accessories User's Guide at **www.telephones.att.com/synapseguides**.

Appendix D: Maintenance

Your system contains sophisticated electronic parts, so it must be treated with care.

Avoid Rough Treatment

Handle the unit gently. Save the original packing materials to protect your equipment if you ever need to ship it.

Avoid Water

Your unit can be damaged if it gets wet. Do not use the equipment outdoors in the rain or handle it with wet hands. Do not install the equipment near a sink, bathtub, or shower.

Electrical Storms

Electrical storms can sometimes cause power surges harmful to electronic equipment. For your own safety, exercise caution when using electrical appliances during storms.

Cleaning Your Unit

Your unit has a durable plastic casing that should retain its luster for many years. Clean it only with a soft cloth slightly dampened with water or a mild soap solution. Do not use excess water or cleaning solvents of any kind.

Appendix E: Important Safety Instructions

CAUTION *This symbol alerts you to important operating or servicing instructions in this document. Always follow basic safety precautions when using this product to reduce the risk of injury, fire, or electric shock.*

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury, including the following:

- Read and understand all instructions.
- Follow all warnings and instructions marked on the product.
- Unplug this product from the wall outlet before cleaning. Do not use aerosol or liquid cleaners. Use a damp cloth for cleaning.
- Do not use this product near water (for example, near a bathtub, kitchen sink, or swimming pool).
- Do not place this product on an unstable surface.
- This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply in your home or office, consult your dealer or local power company.
- Do not allow anything to rest on the power cord. Do not install this product where the cord may be walked on.
- Never push objects of any kind into this product through the slots in the unit because they may touch dangerous voltage points or create a short circuit. Never spill liquid of any kind on the product.
- To reduce the risk of electric shock, do not disassemble this product; take it to an authorized service facility. Opening or removing parts of the unit other than specified access doors may expose you to dangerous voltages or other risks. Incorrect reassembling can cause electric shock when the product is subsequently used.
- Do not overload wall outlets and extension cords.
- The power adapter is intended to be correctly oriented in a vertical or floor mount position. The prongs are not designed to hold the plug in place if it is plugged into a ceiling or an under-the-table or cabinet outlet.

Unplug this product from the wall outlet and refer servicing to an authorized service facility under the following conditions:

- When the power supply cord or plug is damaged or frayed.
- If liquid has been spilled on the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally when following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and often requires extensive work by an authorized technician to restore the product to normal operation.
- If the product has been dropped and the unit has been damaged.
- If the product exhibits a distinct change in performance.

Appendix F: Limited Warranty

The AT&T brand is used under license. For customer service, repair, replacement, or warranty service, and all questions about this product, contact the person who installed your system. If your installer is unavailable, visit our web site at **www.telephones.att.com/smb** or call **1 (888) 916-2007.** In Canada, call **1 (888) 883-2474**.

1. What does this Limited Warranty cover?

The manufacturer of this AT&T-branded product warrants to the holder of a valid proof of purchase ("CONSUMER" or "you") that the product and all accessories provided in the sales package ("PRODUCT") are free from defects in material and workmanship, pursuant to the following terms and conditions, when installed and used normally and in accordance with the PRODUCT operating instructions. This Limited Warranty extends only to the CONSUMER for products purchased and used in the United States of America and Canada.

2. What will be done if the PRODUCT is not free from defects in materials and workmanship during the Limited Warranty period ("materially defective PRODUCT")?

During the Limited Warranty period, the manufacturer's authorized service representative will repair or replace at the manufacturer's option, without charge, a materially defective PRODUCT. If the manufacturer repairs the PRODUCT, they may use new or refurbished replacement parts. If the manufacturer chooses to replace the PRODUCT, they may replace it with a new or refurbished PRODUCT of the same or similar design. The manufacturer will retain the defective parts, modules, or equipment. Repair or replacement of the PRODUCT, at the manufacturer's option, is your exclusive remedy. The manufacturer will return the repaired or replacement PRODUCT to you in working condition. You should expect the repair or replacement to take approximately 30 days.

3. How long is the Limited Warranty period?

The Limited Warranty period for the PRODUCT extends for ONE (1) YEAR from the date of purchase. If the manufacturer repairs or replaces a materially defective PRODUCT under the terms of this Limited Warranty, this Limited Warranty also applies to the repaired or replacement PRODUCT for a period of either (a) 90 days from the date the repaired or replacement PRODUCT is shipped to you, or (b) the time remaining on the original one-year Limited Warranty, whichever is longer.

4. What is not covered by this limited warranty?

This limited warranty does not cover:

- PRODUCT that has been subjected to misuse, accident, shipping or other physical damage, improper installation, abnormal operation or handling, neglect, fire, water or other liquid intrusion; or
- PRODUCT that has been damaged due to repair, alteration or modification by anyone other than an authorized service representative of the manufacturer; or
- PRODUCT to the extent that the problem experienced is caused by signal conditions, network reliability or cable or antenna systems; or
- PRODUCT to the extent that the problem is caused by use with non-AT&T accessories; or
- PRODUCT whose warranty/quality stickers, PRODUCT serial number plates or electronic serial numbers have been removed, altered or rendered illegible; or
- PRODUCT purchased, used, serviced or shipped for repair from outside the United States of America or Canada, or used for commercial or institutional purposes (including but not limited to products used for rental purposes); or
- PRODUCT returned without a valid proof of purchase (see item 6 on next page); or
- Charges for installation or setup, adjustment of customer controls, and installation or repair.

5. How do you get warranty service?

To obtain warranty service, contact the person who installed your system. If your installer is unavailable, visit our web site at **www.telephones.att.com/smb** or call **1 (888) 916-2007.** In Canada, call **1 (888) 883-2474**.

NOTE Before calling for service, please review the user manual. A check of the PRODUCT's controls and features may save you a service call. Except as provided by applicable law, you assume the risk of loss or damage during transit and transportation and are responsible for delivery or handling charges incurred in the transport of the PRODUCT(s) to the service location.

The manufacturer will return any repaired or replaced PRODUCT under this limited warranty. Transportation, delivery or handling charges are prepaid. The manufacturer assumes no risk for damage or loss of the PRODUCT in transit. If the PRODUCT failure is not covered by this limited warranty, or proof of purchase does not meet the terms of this limited warranty, the manufacturer will notify you and will request that you authorize the cost of repair prior to any further repair activity. You must pay for the cost of repair and return shipping costs for the repair of products that are not covered by this limited warranty.

6. What must you return with the PRODUCT to get warranty service?

You must:

- Return the entire original package and contents, including the PRODUCT, to the service location along with a description of the malfunction or difficulty; and
- Include a “valid proof of purchase” (sales receipt) identifying the PRODUCT purchased (PRODUCT model) and the date of purchase or receipt; and
- Provide your name, complete and correct mailing address, and telephone number.

7. Other limitations

This warranty is the complete and exclusive agreement between you and the manufacturer of this AT&T-branded PRODUCT. It supersedes all other written or oral communications related to this PRODUCT. The manufacturer provides no other warranties for this PRODUCT. The warranty exclusively describes all of the manufacturer's responsibilities regarding the PRODUCT. There are no other express warranties. No one is authorized to make modifications to this limited warranty and you should not rely on any such modification.

State/Provincial Law Rights: This warranty gives you specific legal rights, and you may also have other rights which vary from state to state or province to province.

Limitations: Implied warranties, including those of fitness for a particular purpose and merchantability (an unwritten warranty that the PRODUCT is fit for ordinary use), are limited to one year from date of purchase. Some states/provinces do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. In no event shall the manufacturer be liable for any indirect, special, incidental, consequential, or similar damages (including, but not limited to, lost profits or revenue, inability to use the PRODUCT or other associated equipment, the cost of substitute equipment, and claims by third parties) resulting from the use of this PRODUCT. Some states/provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Please retain your original sales receipt as proof of purchase.

GLOSSARY

This glossary provides definitions that pertain to the Synapse telephone system.

10/100 Ethernet Port: An Ethernet port that supports two different speeds of Ethernet on the same port. The two speeds supported are 10Base-T and 100Base-TX.

10Base-T/100Base-TX: An Ethernet network operating at up to 100 megabits per second

active call: An established telephone call that is not on hold

analog: A continuously variable signal

analog phone: A non-Synapse telephone that plugs directly into a normal telephone wall plug or into the Synapse PSTN Gateway BYPASS port or ATA FXS port

ATA (Analog Terminal Adapter): Allows the integration of non-Synapse analog telephones, a fax machine, overhead paging equipment, and a music-on-hold source into the Synapse system. It also provides Group Mailboxes to allow different people to access the same Mailbox.

Auto Answer: When the system is in Call Appearance mode, you can set the Deskset to automatically answer calls after a delay that you specify. Without touching the Deskset, you can speak to and be heard by people who call you.

Auto Attendant: A system that automatically answers incoming calls and provides instructions to callers

Auto-MDIX (Automatic Medium-Dependent Interface Crossover): A computer networking technology that automatically detects the required cable connection type (straight-through or crossover) and configures the connection appropriately

Aux In: A 3.5 mm jack on the ATA that allows connection to a streaming audio source, such as a radio or MP3 music player. This jack is typically used to connect a music player for Music on Hold.

Aux Out: A 3.5 mm jack on the ATA that can be used to connect some single-zone overhead paging devices.

Available (☎): An SB67030/031 Deskset screen icon that indicates that there is a Call Appearance key that is not busy with predialing, dialing, ringing, or an active or held call

BYPASS port: An RJ-11 jack on the PSTN Gateway that allows for communication during power outages. Plug an analog telephone into this jack.

Call Appearance: On the SB67020 Deskset, the Programmable Feature Keys identified as Call Appearance keys on the right side of the Deskset. On the SB67030/031 Deskset, the five icons on the right side of the Deskset display and the keys and LEDs associated with those icons. These keys access active and held calls, and calls that are being dialed or predialed. The LEDs and icons indicate the state of each call or potential call.

Call Deck: When there is more than one active call on the SB67020 Deskset or an optional Cordless Handset, each screen in the Call Deck represents and provides access to active, ignored, held calls, and calls that are being dialed. Display each screen by pressing the △ or ▽ Navigation key.

Call Forward All: Automatically forward calls before they ring. All calls are immediately forwarded to the specified destination.

Call Forward–No Answer: Automatically forward unanswered calls to Voicemail, an extension, or outside phone number

call screening: Listening to a Voicemail message while it is being recorded

Cat.-5 wiring: A twisted pair data cable commonly used in offices for computer communication

CO (Central Office): An office to which subscriber home and business lines are connected. The central office has switching equipment that can switch calls locally or to long-distance carrier phone offices.

CPT (Call Progress Tones): Audible tones sent from the telephone company central office to indicate the status of phone calls such as ringback and busy tones

CSU (Channel Service Unit): A line-bridging device that is part of the PSTN, that resides on the customer premises and is connected to Synapse, and is also used to perform loopback and other tests on T1 connections. This device is typically provided by the T1 phone service provider.

DECT (Digital Enhanced Cordless Telecommunication): A wireless telephone technology developed specifically for cordless telephones using frequencies between 1.8 and 1.9 Gigahertz. DECT communication is resistant to interference from other electronic equipment, has longer range, and improved battery life

default: The original product settings

deregister: To remove the association between an SB67030/031 Deskset and a Cordless Handset or Cordless Headset

DHCP (Dynamic Host Configuration Protocol): A network protocol that automatically assigns computer IP addresses

dial pad: The **0** through **9**, *****, and **#** keys on the Deskset and the SB67040 Cordless Handset

direct dial: Allows callers to directly dial users' extension numbers after the Auto Attendant answers

Directory: A list of names and phone numbers

Display Names: The names that the system administrator enters to identify each extension number. The Auto Attendant uses these names to assist callers in forwarding calls.

DID: This feature allows outside caller to directly dial an extension, bypassing the Auto Attendant and the operator

DND (Do Not Disturb): A feature that suppresses audible ringing and incoming paging at the Deskset

DND ON (DND ON): An indicator in the top right corner of the Deskset display that illuminates when you turn on the Do Not Disturb feature

DNS (Domain Name System) server: A server that stores the Domain Name System records, such as address, name server, and mail exchanger records for a domain name and responds with answers to queries against its database

DSL (Digital Subscriber Line): High-speed Internet service through your telephone line. Telephone lines with DSL service require DSL filters to separate the telephone and data signals.

DTMF (Dual-Tone Multi-Frequency): Telephone tones commonly known as “touch-tone”

dynamic IP address: An IP address that is automatically assigned by the server

Emergency Bypass Port: The fifth SB67010 PSTN Gateway jack that can provide telephone operation during a power failure when used with an analog phone

ESD (Electrostatic Discharge): A sudden and momentary electric current that flows between two objects at different electrical potentials that may cause damage to electronic equipment

ESF (Extended Super Frame): A telecommunication standard for T1 framing that includes a cyclic redundancy check and a 4000 bit/s channel capacity for the data link channel

Ethernet: A type of computer networking technology that connects devices via Local Area Networks (LANs)

Extension Directory: A private list of names and phone numbers available to only a single extension (referred to as "Personal list" on the Deskset)

Extension list: A list of names and extension numbers for the Synapse system telephones

extension number: The three-digit or four-digit number representing each individual Deskset

factory default: The original product settings

FDL (Facility Data Link): A 4-kbps channel provided by the Extended Super Frame (ESF) T1 framing format that allows a service provider to check error statistics on customer premises equipment without interfering with the customer premises

flash memory: Reprogrammable system storage used for storing software upgrades

FWD ON (FWD ON): An indicator in the top right corner of the Deskset display that appears when the Call Forward feature has been turned on. This feature causes calls to that extension number to be automatically forwarded to another extension, outside phone number, or to Voicemail.

FXO (Foreign Exchange Office): The Gateway telephone signaling interface between the PSTN telephone lines and the LAN

FXS station port: A jack on the ATA for connecting non-Synapse analog telephone equipment to the Synapse system

G.711: A digital fax protocol

Gateway: A network device equipped for interfacing with another network that uses different protocols

greeting, preset: The voice message that plays to callers if the user has not recorded an outgoing message

grounding: An electrical ground connection that minimizes interference, reduces the risk of equipment damage due to lightning, eliminates electrostatic buildup, and helps protect people who service the equipment

Group Mailbox: Provide general delivery of Voicemail messages to a group within an organization. Only subscribers can access these Voicemail messages.

hard key: Any physical key on the Deskset, Cordless Handset or Gateway. Examples include **MENU** and **1** on an SB67020 Deskset; **PHONE** and **1** on the SB67040 Handset; and **SELECT** and **CANCEL** on the SB67010 Gateway.

hard reset: An action that restores factory default settings

Hold announcement: A recorded message to play while calls are on hold. It can be combined with music on hold.

hub: A network hub or repeater hub is a device for connecting electronic devices, making them act as a single link

hunt group: A telephone company feature that allows calls to a busy phone number to roll over to the next available line or a Synapse system Ring Group feature where unanswered calls are forwarded to the next available extension in a predefined group of extensions

icon: A small picture in the display that presents status information

Idle: The mode of a device when it is not involved in call or call setup activity

interference: Electrical signals close by that cause degraded audio performance for cordless devices

internal call: A phone call placed from one of your Synapse system extensions to another extension

IP address (Internet Protocol address): An individual numeric identification assigned to devices on your LAN

ISDN (Integrated Services Digital Network): A set of communication standards for simultaneous digital transmission of voice, video, data, and other network services over the traditional circuits of the public switched telephone network.

IT Controller: Part of a computer network infrastructure that connects different parts of the network, so that different LANs and subnets can exchange information. Also known as a backbone network or a network backbone.

key beep: When enabled, pressing a key plays a tone

LAN (Local Area Network): A communications network that allows data devices to communicate with each other

LCD (Liquid Crystal Display): The screen that provides instructions and feedback

LED (Light Emitting Diode): A small light on a device that indicates status

link loss: Occurs when the connection between two RF devices fail, such as between the SB67030/031 Deskset and the optional Cordless Headset or Cordless Handset

link-local address: A local address used for network address creation when no external source of network addressing information is available

live dial: Dialing after the phone is off hook

MAC address (Media Access Control address): A unique identifier assigned to most network adapters or network interface cards that is required for registering your devices

main menu, Auto Attendant: The Auto Attendant messages and actions that are available to callers before the callers take additional actions

MDI/MDIX: (Medium-Dependent Interface Crossover): A computer networking technology

MoH (Music on Hold): Music or other audio that plays to an outside caller that has been placed on hold by a Synapse user

multi-zone paging: Paging through a multi-zone overhead paging system. The overhead loudspeakers are configured in multiple areas and transmit messages independently.

mute: Stop sending your voice to the other party during a phone call

NTP (Network Time Protocol): An Internet standard protocol that assures time synchronization in a computer network

Network Termination Unit (NTU): A device that terminates a network access point

octet: Octets are used in Internet Protocol computer network addresses. These consist of a series of four octets, usually shown in decimal and separated by dots.

off hook: Indicates that you are on a phone call, have lifted the corded handset, or have pressed **SPEAKER** or **HEADSET** to answer a call or to prepare to place a call. You are off hook from the moment that you hear a dial tone to when you hang up a call.

OHP (overhead paging) system: An amplified public address system

on hook: Indicates that no corded handset, speakerphone, Cordless Handset, or corded or Cordless Headset is active

operator: The extension that callers reach by dialing **0** (zero) when the Auto Attendant operator feature is enabled or that system users reach at any time by dialing **0** (zero)

outside call: A phone call between a phone not a part of your Synapse system and an extension within your Synapse system

P2P (Peer-to-Peer): A telecommunication system architecture in which some resources associated with a device are directly available to other similar system devices

page: Broadcasts your voice to all idle extensions that do not have Do Not Disturb turned on

page caching: Most web browsers store recently obtained web site data on a local hard drive. The browser then only asks for data that has changed since the last download. Caching helps reduce the amount of traffic on the Internet.

paging zone: A set of extensions that can be paged as a group

park: A form of hold that allows held calls to be retrieved by any Deskset or the SB67040 Cordless Handset

Park list: The list of unretrieved parked calls

pass code: Another term for password

Personal list: A private list of names and phone numbers available to only a single extension (referred to as “Extension Directory” on the WebUI)

Pilot Number: Usually the company’s main telephone number

POTS (Plain Old Telephone Service): Basic telephone operation. The ability to make and receive phone calls.

predial: Enter digits before going off hook to place a call

PRI (Primary Rate Interface): A standardized telecommunications service level within the ISDN specification for carrying multiple voice and data transmissions between a telephone network and a user.

PSTN (Public Switched Telephone Network): The world’s telephone network

Quick Dial: Provides two-touch dialing for frequently called phone numbers

quota: The maximum recording time for a using

reboot: Restart a device

Redial: Accesses the log of outgoing calls

RF (radio frequency): The communication channel for most Cordless Handsets and Cordless Headsets

Ring Group: Groups of extensions configured by the system administrator to all ring in a predetermined pattern within the group when calls come in for that group

router: An electronic device that connects two or more other electronic devices to each other, allowing them to communicate

single-zone paging: Paging to a single set of overhead loudspeakers. All speakers transmit the same announcement simultaneously.

soft key: The Synapse Desksets and Cordless Handsets feature keys below the LCD screen. The bottom of the LCD displays the appropriate label for each key as the function of the key changes.

standby time: The amount of time that a Cordless Handset or Cordless Headset can sit idle out of its charger while still capable of operating normally

static IP address: An IP address that is manually assigned to a computer by a system administrator. This type of addressing requires specific knowledge of the LAN.

subnet (subnetwork): Typically a LAN served by one router

subscriber: A user who can access messages in a Group Mailbox

supervised transfer: Occurs when you communicate with the transfer recipient before completing a transferred call

switch: A network switch links electronic devices. The switch processes and routes data flexibly, allowing more data to be handled without error.

system administrator: A person to perform functions such as setting up and modifying system configurations. This system administrator can be an employee or your telephone equipment provider.

System Directory: (see System list)

System list: This list of names and phone numbers is created and maintained by the system administrator. All system users can sort and view this list.

system operator: The extension that callers reach by dialing **0** (zero) when the Auto Attendant operator feature is enabled or that system users reach at any time by dialing **0** (zero)

T1: A digital signaling standard to transmit voice and data between devices

T.38: An analog fax protocol that encodes fax-modem codes over VoIP

trunk: A communications connection between the Synapse system and the telephone company

unsupervised transfer: Occurs when you do not communicate with the transfer recipient when transferring calls. The transfer recipient does not have to pick up the phone and talk to you before receiving the transferred call.

UPS (Uninterruptible Power Supply): A battery-powered emergency power supply device

URL (Uniform Resource Locator): An Internet address

VoIP (Voice over Internet Protocol): A transmission technology for delivery of voice communications over IP networks such as the Internet or other packet-switched networks. Other synonymous terms include IP telephony, Internet telephony, Voice Over BroadBand (VoBB), broadband telephony, and broadband phone.

WebUI (Web User Interface): A means of interacting with a product using a computer interface. Connection to the World Wide Web is not necessary.